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ORIGINAL ARTICLES.

NOTES ON PROGRESSIVE STUDIES IN ETIOLOGY, AND ESPECIALLY AS TO MICROÖRGANISMS AS SOLE FACTORS OF DISEASE.

BY EZRA M. HUNT, M.D.,

SECRETARY OF THE NEW JERSEY STATE BOARD OF HEALTH, TRENTON, N. J.

FOR the past few years no subject has more attracted the attention of physicians and sanitarians than the relations of microörganisms to disease. So soon as medical experience and some approach toward science began to take the place of superstition it could not but be that inquisitive minds would seek to know the cause of disease. This was especially the case with epidemics that seemed to light on persons and places regardless of choice. It was at once natural and plausible to maintain that the visitation was independent of locality. The wind bloweth where it listeth. It is "the epidemic constitution of the atmosphere" was the learned phrase under which ignorance of causation was concealed. So in 1839 we hear Dr. Farr, the Registrar-General of England, saying:

"Difficulties in the history of plagues and contagious diseases of every description have generally been disposed of summarily by the hypothesis that the disease is always introduced from without and spreads naturally—like a conflagration. It is true that they are frequently introduced thus, but this neither proves that all diseases are always thus introduced, nor does it at all show the relation of the number of cases of seizure or of mortality to the conditions of persons and surroundings."

It was not long before the awakening medical mind began to suspect that it was necessary to guess about or explain what this impalpable vapor, particle, or thing might be which *introduced* the pestilence. Fortunately, many conceived that there were other practical questions also, such as, How to limit extension and mortality after arrival? But there were some early inquiries in the direction of seeking the relation of certain living particles to disease. About fifty years ago, Dr. Holland, in his *Medical Notes and Reflections*, discussed the hypothesis of infusoria as at that time a more probable doctrine than that of vegetable parasites. In the *British and Foreign Medical Review* for April, 1840, is to be found the following:

"The hypothesis that the causes of epidemics are generations of minute insects transmitted from one individual to another through the medium of the atmosphere, has been ingeniously put by Dr. Holland, in his *Medical Notes and Reflections*. Henle, of Berlin, has supported the theory by new facts and analogies. The diffusion of contagion has a close analogy with fermentation; and Cagniard-Latour and Schwann have shown that fermentation is the decomposition of organic fluids by minute vegetables of the lowest class. Putrefaction is a destruction of organic matter effected by infusoria, and not a mere decomposition into elements. One contagious disease, the muscardine of the silk-worm, is known to depend on the development of a vegetable parasite. The germs are innumerable, and spread with the greatest rapidity. In mixtures, certain genera of infusoria appear, and then give place to new genera. Individual cases of disease may be caused by one generation of parasites; an epidemic by successive generations. Each epidemic disease has its specific animal contagion, its specific genera of infusoria. Henle has proved the existence of this cause, and the theory in every way but one; he has never seen the epidemic infusoria. The omission is, no doubt, important; and the more so on the part of Henle, who is justly considered one of the best microscopic observers in Germany. The infusorial hypothesis does not satisfactorily explain the cause of epidemics; it accounts for them by the creation of animalcules, but does not show why the animalcules are created at distant times in swarms. The phenomena of swarms of insects, of blight, and of infusorial generation may suggest investigation, but in the present state of pathology they cannot supply its place."

Earlier than this, in 1833, Dr. Tyler had enunciated the fungoid doctrine of disease as accounting for the origin of the cholera in India. This pamphlet of sixty pages was entitled "Facts Establishing the Deleterious Properties of Rice as an Article of Food," see *Lancet*, vol. I. 1833–4. In 1838, Boehm, of Berlin, had written his article "Die kranke Schleimhaut in der Asiatischen Cholera, Berlin, 1838." As to it in 1866 Sir John Simon said:

"If the doctrine of a cholera-fungus should hereafter be substantiated, it will probably be conceded that Boehm deserves the credit of having first published a thoroughly valid account of the phenomena of cryptogamic vegetation in choleraic intestines and discharges, and Hallier's researches do not better join on to the recent essays of Thomé and Klob, than they might have joined, in 1838, on to those of Boehm. The fifth section of his admirable little book is entitled 'Ueber das Vorkommen der Garhungskeime (Pilze) im Nahrungs-kanal der Cholerakranken." In it he describes as almost constant, that the whole extent of the intestine (but generally the large intestine the least) teems with a vegetation of microfungi; that innumerable round and oval, or more elongated, corpuscles are to be found in all the vomit and dejections as well as in the canal; sometimes single, sometimes two, three, four, or more joined end to end, as links of a chain; and these chainlets sometimes branching; that such forms are held together in mucous flocules and come best to light when liquor potassæ is used; that within the small intestine they are often so numerous that not the smallest specimen will fail to show numbers of roundish, fungic forms amid the débris of epithelium. He appends an illustration which shows quite

unquestionably the forms of cryptogamic growth, and refers, for similar forms, to Schwann's then recently published investigations of yeast."

Henle too, in 1840, in his *Pathologischen Untersuchungen* showed that the "contagium vivum" that had been indefinitely talked about must be a living organism, since it grew and multiplied in the body of the infected host by assimilating other substances than its own. Even by the light of modern microscopic knowledge we cannot wonder at the imperfect distinction between these low forms of animal and vegetable life, although we now owe so much to plant-pathology in the elucidation and confirmation of the subjects. It was really this vitalistic view of contagion that Pasteur revived about 1860.

In 1848, "Dr. Cowdell, of Dorchester, England, sought to establish on theoretical grounds that cholera must depend on a microscopical fungus absorbed through the lungs into the blood and multiplying in the blood and bowel."

Early in 1849, Prof. Mitchell, of Philadelphia, had published his article "On the Cryptogamous Origin of Malarious and Epidemic Fevers."

In the autumn of 1849, there was, says Dr. Simon, for a few weeks a great deal of talk in England about the cholera-fungus. This arose from the publication of Drs. Brittan and Swayne, of Bristol, in the *Medical Gazette* and *Lancet:*

"These writers had for some two or three months been acting in relation to cholera as a microscopical committee for the Bristol Medico-Chirurgical Society, and in their examination of choleraic discharges had, independently of one another, observed, often in very large numbers, certain peculiar forms ('annular bodies,' 'cholera cells,' etc.) which they believed to form a connected series, and to be characteristic and causative of the disease. These forms, they said, were of smaller size in the vomit than in the dejections; and Dr. Brittan, stating that he had found still smaller bodies of the same sort in the atmosphere of cholera districts, put forward a note from Mr. John Quekett, then an eminent microscopist, to the effect that he having examined Mr. Brittan's specimens from air, vomit, and dejection, 'had no hesitation in stating that in his judgment they were successive stages of development of the same body, which he believed to be of a fungoid nature.' Dr. Budd, of Bristol (*Times*, September 26th), added that he had found the same peculiar microscopic objects 'which seem to be of the fungus tribe in great numbers in almost every specimen of drinking water which he was enabled to obtain from cholera districts;' a statement which appeared particularly important in connection with the very original and remarkable views then recently put forth by the late Dr. John Snow, in a little paper which now has historical interest, 'On the Mode of Communication of Cholera;' for Dr. Snow was contending that cholera is primarily an affection of the intestinal canal; that it is excited by the accidental swallowing of contagious matter discharged from the bowels of the sick, something which being swallowed can increase and multiply within the stomach and bowels; and that the great agent of such infection is drinking water. Dr. Budd in the above quoted letter, and in a pamphlet which he soon afterward published to the same effect, brought the various views interestingly together, and recommended as a most important precaution the disinfection of the discharges of the sick by receiving them 'into some chemical fluid known to be fatal to the fungous tribe."

But the adverse report of a committee of the College of Physicians and the cessation of the cholera seemed so to suspend this view that only Dr. Swayne answered the committee.

It was not until about 1866 that observations in the same general direction, made by Thomé, Klob, and Hallier turned new attention to the subject. These are thus described by Dr. Buchanan in his abstract of Professor Ernst Hallier's recent researches into the natural history of the cholera fungus (1866).

"Hallier's observations were made on the stools of a person with cholera at Berlin in 1866, and on the stools and vomit of a cholera patient at Eberfield in 1867. In the stool from Berlin, the characteristic vegetable elements consisted of a fine fungiform matter (Hefe) which floated, and of more highly developed spore-cysts (Fruchte) which sank to the bottom. These spore-cysts are described as yellow or brownish bodies, consisting of a pale membrane inclosing highly refracting, colored spores. The cyst-wall undergoes a series of changes, ending in its rupture or solution, and the spores then become free. The spores, by progressive partition—a process which may begin before they leave the cyst—resolve into very small cells, grouped into balls and heaps which Hallier calls "colonies" of micrococcus. The small cells of micrococcus constitute the fungiform matter (Hefe) which is the other vegetable element seen in the evacuations. The minute micrococcus cells attach themselves to any bodies there may be in the stool—to remnants of animal or vegetable food, to epithelium cells, or to oil globules; and under the influence of the micrococcus, these and all nitrogenous matters got a dirty aspect and lost their structure."

The chief advance of Hallier seems to have been in the detection of "highly developed cyst-formations with the contained spores in a state of actual germination." No one can go over his researches and experimental methods without recognizing how far he approached toward investigations that have since been accounted as original. Indeed, it is to such botanists as Hallier, Hoffmann, Cohn, and Davaine that we owe the revival of interest in the study of these minute forms, some of which it is believed had been seen by Leuwenhœcke as early as 1675, and since by various observers, but had not been so closely associated with diseases. But now the attention of physicians had been arrested, as had been that of Prof. Panum (1856), of Copenhagen, and a few others. From 1870 onward the relation of microörganisms to disease has been as prominent among pathological as among botanical investigators. "The researches of MM. Davaine, Hallier, and Cohn upon the bacterium of charbon and the micrococci of contagious maladies were taken up by chemists, pathologists, and microscopists, until in 1876, the papers of Cohn and the skilful cultivations of Koch of the bacillus anthracis so as to carry it through the stages of development and give its life history, established, in one instance at least, a direct relation between a microörganism and a disease. But

physicians generalize much more rapidly than do most painstaking specialists in so minute inquiries. Although ten or more years have passed, we may well remember that it was Cohn who says:

"So long as the makers of microscopes do not place at our disposal much higher powers, and as far as possible without immersion, we will find ourselves in the domain of the bacteria, in the situation of a traveller who wanders in an unknown country at the hour of twilight, when the light of day no longer suffices to enable him to distinguish objects, and when he is conscious that, notwithstanding all his precautions, he is liable to lose his way."

With this caution, at that time, we have good reason to inquire as to our progress since.

It will, we believe, show that most laborious and valuable work has been done, and that we are in the region of great possibilities in the effort of restraining or preventing disease. But it will also show us that too many of the *practitioners of medicine* are generalizing and arriving at conclusions faster than the biological investigators.

First of all, let it be noted that since then (1880) Magnin closes his treatise thus:

"As to their *rôle* (microörganisms) in fermentations, in putrefactions, in contagious diseases and in surgical lesions, notwithstanding the considerable number of labors of which the bacteria have been the object in the different points of view, it is not yet possible to define it in a certain manner."

Surgeon Sternberg, the translator, adds his own approving and emphasizing note.

In 1886 E. Klein opens his excellent manual on microörganisms and disease by cautioning us against taking "as proved what has really not passed beyond the stage of possibility."

Following Prof. Koch, he then states the conditions, without which, "in no instance, can it be said to have been satisfactorily proved; that a particular infectious disease is due to a particular microörganism." He then enumerates five non-pathogenic or septic organisms, and sixteen pathogenic forms, as claimed to have been subjected to some or all of the tests proposed.

Of these, the only ones with which the practitioner among human diseases has in general to deal are: typhoid fever, malaria, anthrax, tuberculosis, and Asiatic cholera. It is notable that neither smallpox, measles, scarlet fever, diphtheria, nor whooping-cough is included. It is also noticeable that as to the microörganisms of typhoid fever, Klebs, Eberth, and Koch are not in agreement that they have not answered the crucial tests relied upon by bacteriologists, so that Klein does not regard them as shown to be "necessarily or intimately connected with typhoid fever."

As to malaria, the observations of Tomassi-Crudeli have not been accepted as conclusive by any considerable number of bacteriologists, while the malarial germ of Laveran has claims to recognition.

As to the tubercle bacilli, the presence of this special form, among others, in tuberculosis is admitted, but so long as such observers as Toussaint, Klebs, and Schüller claim that tuberculosis is due to a microörganism, which is a micrococcus and not a bacillus, and so long as Schottelius and Klein deny the identity or interchangeability of the human and the animal (bovine) disease, although the same microörganism is found, we certainly cannot assert it to be proven that this is the *causa vera* of the disease.

Opposite the comma-bacillus of Asiatic cholera there are still several interrogation points. "Comma bacilli of various species have been found in other diseases of the alimentary canal; in the fluid of the mouth of normal persons (Lewes), and in old cheese (Denike)." Similar criticisms apply to most of the microphytes claimed as the cause of some animal diseases, and even certain variations as to anthrax, are still dubious. Thus Pasteur, p. 154, says they do not form spores; at p. 426 Klein says they do.

Prof. A. De Bary, in the recent edition of his *Lectures on Bacteria* (Oct. 1887) states similar views with great precision, and with many cautions against too rapid scientific or clinical deductions.

Says Prof. De Chaumont (1887), "Those who have followed the development of the (microbe) question during late years know what extraordinary studies have been made and yet we are, as it were, merely hovering about the gate and have barely entered the field at all. Some who have got within the gate astonish us with their accounts, more or less confused, of the wonders to be found within, while others still stand outside on the beaten track crying out that there is nothing in the field and that all is vanity."

Also, "It is true that we have the bacillus of anthrax and the bacillus of tuberculosis, the connection of which with these diseases is undoubted, but it still remains to be *proved* that each is 'teterrina causa morbi.'"

As "It is shown that pathogenic bacteria (or what are believed to be so) propagate best under unhygienic conditions, light, fresh air, and pure water being inimical," it behoves us to give great consideration to *that class of causes which are generally most decisive of results.*

Such facts as these do not show but that we are in a wide and important field of investigation, since the presence of special and typical forms may be a great aid to diagnosis, and the cessation of the forms under treatment may point to the best therapeutics; but we must not assert that these *cause* the disease until more evidence is in, and a little more analysis and summing up occurs. So Dr. Karg, of Dresden, in his recent summary of the work of Weisser well remarks, "One must admit that our knowledge of the conditions of life for the micro-parasites, notwithstanding the most zealous labors in the field of medicine, are by no means so advanced that we can give a satisfactory and comprehensive judgment concerning their action in the living organism in which the relations are so exceedingly complicated."

There are now other considerations that must be given due weight.

(*a*) All animals do not show the same results, and it is unsafe, therefore, to infer that culture experiments in animals verify what would or does take place in man. Thus, "Rodents, carnivorous animals, and monkeys must be considered unsusceptible to cholera. In connection with all the experiments said to have yielded positive results on guinea-pigs, it must be mentioned that a variety of bacteria are known, which, although derived from *normal* but putrid secretions, act very poisonously on rodents—*e. g.*, the bacillus isolated by Bienstock from normal human fecal matter; the dumb-bell micrococcus isolated by Pasteur and Sternberg from normal saliva, by Escherich from the stool of milk-fed infants, and by Klein from sputum in pneumonia" (see Klein, p. 186).

(*b*) On the point of the harmful effects of septic bacteria in diseases regarded as specific, read, for instance, the abstract of the report of Prof. E. Crookshank to the Agricultural Department of Privy Council, read before the London Pathological Society, January 17, 1888, and to be found in the *Lancet* of January 21, 1888. Thus he identifies the streptococcus pyogenes of acute abscesses as present in various diseases. He says, "For some time my attention has been drawn to the probable identity of organisms described in puerperal fever, measles, scarlatina, and diphtheria with the chain-forming micrococcus in pus, and I find that, independently, bacteriologists on the continent have not only considerably extended that idea, but have come to definite conclusions." He names over twenty diseases of the communicable class in which the presence has been noted and recognized as the determining factor as to gravity of attack. "Thus, Passet, Biondi, Eiselsberg, Baumgarten, and Fränkel have definitely accepted the identity of the streptococcus associated with suppuration, and the streptococcus associated with erysipelas. The same has been asserted by good authorities as to hospital gangrene and puerperal fever (see Rosenbach, Fränkel, Cushing, and Baumgarten). So as to diphtheria, Fehleisen and Baumgarten found the species identical with the streptococcus in erysipelas. It is admitted that there are differences of manifestation, but the same essence. Similar results were asserted by skilled and accepted observers as to scarlet fever and other diseases. This accords with the clinical observations of Sir William Jenner long since made as to the agency of sepsis in the determination of grave symptoms and fatal results in scarlet fever and diphtheria."

(*c*) There is still respectable disagreement among leading authorities as to whether common or septic may change into pathogenic microörganisms, or as to possible modifications of pathogenic forms by culture and surroundings, as also of their products. Klein, for instance, while taking ground against Buchner and Sattler as to harmless microörganisms assuming pathogenic properties under the influence of soil or surroundings, still speaks of it as an "open question." Compare Billroth, Nägeli, Zopf, etc., who still more open the question as to the effect of modifications of species and of their effects due to the poison or environment.

(*d*) It is only of late years that we have come to recognize the very great numbers of different classes, species, and groups of microörganisms that are often present, and at different times present or absent in the same disease or in the same fluids, and so the task of differentiating which are hurtful and which is the one and the only one that is operative constantly; which is pathognomonic of the disease, and its specific cause is rendered more difficult.

(*e*) It is one thing to find a form or class always present, and another thing to prove that it is the *fount and origin*—the *true cause* of the disease. Cheyne, speaking of the tubercle bacilli, says, "It is probable that a variety of conditions, such as special predisposition, are necessary before they can grow in the living body." This applied to various diseases, simply indicates the meaning that a diseased or abnormal condition being in the system, the appearance of microbes of special forms belongs to the phenomena of disease, or is one among the causal relations.

Presence in itself considered never indicates cause, but often an effort of nature to deal with and dispose of disease products. De Bary says a microbe may be diagnostic of disease, and yet not be its cause.

(*f*) It was only after much had been said of the microörganisms of disease that we came to realize that the *rôle* played in the economy of nature, or of animal life by microörganisms is *essential* for the maintenance of life. Hence it was almost a surprise when we reached the term *harmless bacteria*, and still more the term *indispensable bacteria*, and finally have so good an authority as Watson Cheyne sum up an article on the subject (1884) by proposing an inquiry as to how to so deal with the pathogenic organisms as to make them useful instead of hurtful.

(*g*) Microbes have so much to do with what are after all chemical processes that we are not to so far accept biology as to overlook chemical metabolisms of disease. The biological facts still leave a study of disease from the standpoints of physiological and pathological chemistry. Germane to this is the recent paper of M. Vignal to the Académie des Sciences, published in *La France Médicale*, No. 99, an article in which not only are the number and variety of microbes in the alimentary canal noted, but the remarkable or different powers of chemical metabolism which they exercise. The claims of Pasteur for the wonder-workings of microbes in the usual processes of digestion, and their necessity, are in the same line.

(*h*) A new field of inquiry opens as we study the

products of microörganisms and the poisonous products of decomposition. As to either of these we do not yet know all the relations that are biological or all that are chemical. Thus, in anthrax it is not the bacillus, but, as Hoffa and others have shown, "the poison products accumulating in the blood that cause the fatal issue." So there is claimed to be a cholera ptomaine. See, also, the researches of Brieger on the tetanus bacilli, and of Rosenbach as to the two alkaloids, tetanin and tetanotoxin, both of which, introduced into animals (without the bacillus) produce their specific action. So in the various ptomaines (Selmi) and leucomaines we have to deal, perhaps, with chemical products, and not with actual animal or vegetable life *in situ*. In fact, septic poison or sepsin results from various chemical processes which in themselves are destructive of every living microörganism.

(*i*) More recently we have important contributions as to the coöperations and antagonisms of different classes of microörganisms, showing that the destruction of one form may be the removal of the most hopeful method of getting rid of another form.

Dr. Garre, a leading Swiss bacteriologist and lecturer at Basle University, has recently studied the relations existing between a non-pathogenic bacterium growing in putrescent fluids, in the water of wells, etc., and shown its antagonism to the bacillus typhosus, etc. "The explanation of the antagonism lies in the fact that microbes secrete some specific, highly diffusible substances which prove poisonous to certain species of bacteria, while having no effect on others." He shows, by several experiments, that it is not the crowding out or starving out of one species by another, but a direct germicidal effect (see *Fleming's Veterinary Journal*, October, 1887, p. 305).

This brief review is of itself sufficient to show that we are very far from being prepared as yet to settle the relations of microörganisms to each other, or to disease; to define which are specific and which are not, to tell how pathogenic organisms become so, or how they produce results; whether they are causative or merely coöperative; in a word, are not prepared to base any system of clinical practice thereupon.

This caution is not so much needed by the bacteriologists, many of whom give full weight to such facts, as by those who from some special results or discussions point to special and positive conclusions. The study of what is actually present in disease is always important, not only as finding whether the presence is an *arrival* which has initiated the processes which constitute the disease, but also as finding what are its other exact relations to the disease. For, if finding either that it is integral or incidental to the disease, or only diagnostic, in either case it is important to know the effect of this action on the sickness. It is essential that the practitioner shall always bear in mind "that the pathogenic effect depends upon several conditions, such as the source of the microörganism, the dose, the mode and place of infection, and the nature of the inoculated soil." Our only design is thus to draw attention to the actual status of microphytic knowledge, so far as it concerns practical hygiene or practical treatment of disease, so that we may not too early assume as a basis what is not yet proven. This, at the same time, stimulates us to such constant inquiry as may be indicated, and as is hopeful for the future of both of these important sciences and arts.

OSTEOPLASTIC RESECTION OF THE FOOT (WLADIMIROFF-MIKULICZ).

BY STEPHEN SMITH, M.D.,
OF NEW YORK.

Two cases of the new operation of osteoplastic resection of the foot, as devised and practised by the surgeons mentioned in the title of this paper, have been reported in this country.[1] I am able to add another case, and as the operation seems to be one of great promise, I desire to add my own to the list, chiefly because of its failure:

The patient was aged twenty-one, of apparently good health. In November, 1885, he received a severe crushing injury to the heel of the right foot in a railway accident. The process of repair was very slow, and finally terminated in considerable retraction of the heel, but without a complete closure of the wound. He first came under observation April 13, 1886, when the foot presented the following appearance. The heel was drawn up and firmly flexed, the wound was but partially healed, and in his efforts to walk the wound rapidly enlarged, and he was compelled to take to his bed. He was urgent to have his leg amputated. As amputation, or resection, offered the only chance of securing a useful extremity, resection was proposed, and the osteoplastic operation of Mikulicz explained to him. He much preferred amputation, as that was the only operation which had been suggested to him by physicians whom he had consulted. He finally consented, though reluctantly, to resection, and it was accordingly performed on May 14, 1886.

The precise steps of the operation were nearly those detailed by Mikulicz in his paper.[2] Fig. 1, taken from his publication, will best illustrate the several stages of the procedure. Esmarch's elastic bandage was employed and antiseptic pre-

1 The Osteoplastic Resection of the Foot, as devised by Wladimiroff and Mikulicz. By Christian Fenger, M.D., Journal American Medical Association, January 29, 1887. Report of a case of Wladimiroff and Mikulicz Osteoplastic Resection of the Foot. By William Barton Hopkins, M.D., THE MEDICAL NEWS, December 3, 1887.

2 Archiv. für Klinische Chirurgie, 1881, Bd. 26, Heft 2, p. 494.

cautions taken. The patient was placed in the abdominal or prone position; an incision was commenced (*a*) just in front of the tuberosity of the scaphoid on the inner border of the foot, and carried down to the bone across the sole of the foot to a point behind the tuberosity of the fifth metatarsal bone (*b*); from the ends of this cut two incisions were carried upward and backward to the base of each malleolus; the ends of these incisions were

FIG. 1.

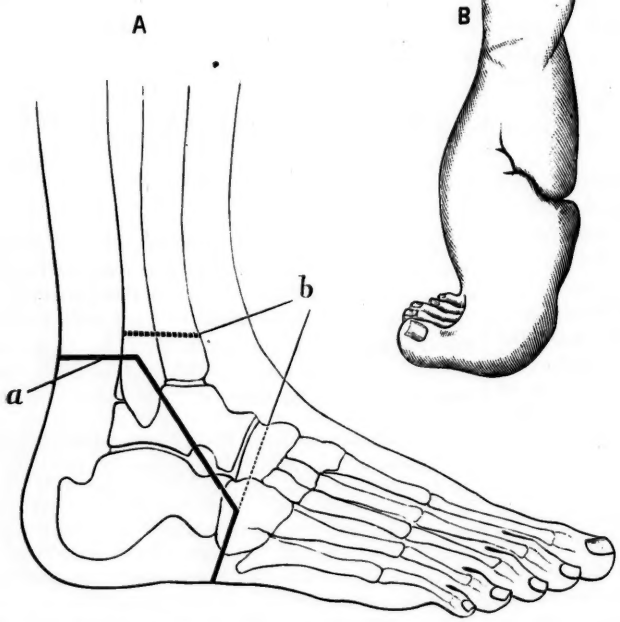
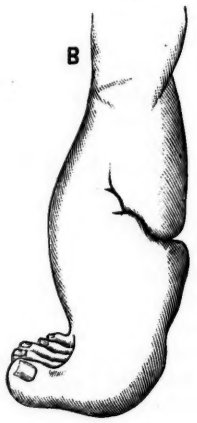


FIG. 2.



next united by an incision across the posterior surface of the leg (*a*) at that point; the foot was then carried in dorsal flexion and enucleation effected at the ankle-joint from behind forward, the astragalus and os calcis being dissected away from the soft parts in front. The malleoli and the articular surfaces of the tibia and fibula were next sawn off and then the articular surfaces of the scaphoid and cuboid bones were removed (*b*); the foot was then placed in a straight line with the leg, and the resected tarsal bones assumed a very easy and natural apposition to the divided ends of the tibia and fibula. Two silver wire sutures were inserted into the apposed bones, one at the external and the other at the internal angle. All of the opposing deeper structures of the wound were then united by catgut sutures; the divided tendo-Achillis being attached to fibrous tissues of the sole, and the cut tendons of other muscles united accurately. Two small drainage tubes were inserted, the usual antiseptic dressings applied, and the limb was finally fixed in proper position by the gypsum bandage.

The wound progressed admirably while he was under my care, there being no fever or suppuration. A slight slough of the old cicatrix occurred about a suture. It was very noticeable, however, that the patient was dissatisfied with the peculiar foot that he had, and this discontent was aggravated by his companions who visited him and ridiculed his appearance. He became very morbid and began to urge amputation through the leg. He was encouraged to await results, but in vain. Finally, when out of the hospital on leave he disappeared, and did not return for upward of eighteen months. He had meantime, had his leg amputated and returned to have the stump amputated. He has since succeeded in having his limb amputated twice.

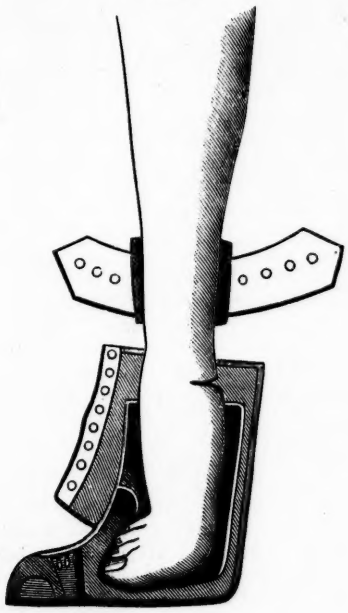
The failure of the operation was, therefore, due to the conduct of the patient rather than to the conditions of the wound.

As this patient passed from under my care before the completion of the cure, I did not have an opportunity to perfect the position of the toes. This has proved to be an important procedure. It will be seen (Fig. 2, B) that the toes are to be fixed in a position of extreme extension, or dorsal flexion. To effect this object Mikulicz divided the contracted tendons and forced the toes into the position indicated, and maintained them in this state by apparatus. Fenger states that after the wounds were healed in his case "The toes of the foot were fixed in semiflexion, and as they possessed but little mobility it became necessary to effect their complete dorsal flexion in order to enable the patient to walk on the balls of the first phalanges, . . . the patient was again anæsthetized and the toes were forcibly extended, *i. e.*, flexed on the dorsum of the foot. The flexor tendons, as well as the metatarso-phalangeal joints, had (from non-use) almost entirely lost their mobility; the skin covering the plantar surfaces of the joints was contracted. As a consequence of this condition the skin gave way beneath the first and second metatarso-phalangeal joints, and the first phalanx of the great toe was fractured just anterior to the joint." The toes were maintained in this position by a plaster cast. The wounds healed in about a month, and he was supplied with a boot designed by Mikulicz (Fig. 3). Subsequently the cicatrix on the plantar surface of the great toe opened, and was finally closed by a plastic operation.

Dr. Hopkins has so fully discussed the several questions relating to the operation, in a recent number of THE MEDICAL NEWS, that it remains for me only to express my strong convictions of its value, and the importance of familiarizing the surgeons of

this country with its details. It is true that it is applicable to but a limited number of cases, but in

FIG. 3.



those cases it is to be preferred to any other method. It is very easy of execution, very successful as regards the cure, and affords a most useful limb for progression.

574 MADISON AVENUE, NEW YORK.

A CASE OF ABDOMINAL SECTION.

A Contribution to the Subject of Exploratory Laparotomy.

BY WILLIAM M. MASTIN, M.D.,
OF MOBILE, ALA.,
FELLOW OF THE AMERICAN SURGICAL ASSOCIATION, ETC.

LAPAROTOMY as a diagnostic measure, although receiving the unqualified advocacy of a few bold operators, has not attained a place among established surgical principles, but, on the contrary, remains a doubtful and unsettled procedure.

Such a position is, to say the least, surprising in this day of heroic surgery, where no part, it matters not how vital, of the complex human organism is beyond the reach of the knife; and especially when it is remembered that the operation of opening the abdominal cavity, its contents subjected to rude manipulation, and often extensive mutilation, is of daily, if not hourly, occurrence, and with formulated rules, definite and explicit, ready for our guidance in the necessities for and technique of its performance. But the fact is, that examples of exploratory abdominal section bear a very small ratio to the immense number of what, in contradistinction, may be designated as operative laparotomies, and to this paucity of clinical records may be ascribed measurably its condition of uncertainty.

The present status of abdominal surgery certainly demands more extended and exact knowledge concerning this important subject, and for its proper estimate it becomes essential that a careful and comprehensive analysis be made of numerous cases of *strictly* exploratory operations—that is, where the abdominal incision is not followed by additional surgical interference. Hence the report of clinical records is, of course, indispensable, since from this source alone can be secured the deductions requisite for determining the value and limit of its applicability; and, therefore, I offer this case as a small part of the needed mass of evidence.

It is true that operative laparotomy has solved already some of the questions which arise in this inquiry, but still it is necessary to examine the entire subject anew that we may ascertain just how far laparotomy can be employed in the diagnosis of obscure abdominal lesions, and chiefly, 1, the character and extent of danger in the operation *per se;* 2, to what class of cases it is applicable; 3, the necessity for large and small incisions, respectively, and their relative gravity; 4, the influence exerted over existing non-operable lesions of the contained viscera; 5, what effect may be anticipated upon coexistent diseases, both systemic and of distant regions.

The subjoined case, besides presenting many interesting features, furnishes very material aid in answering several of these queries; at least, in this instance, it demonstrates that the operation in itself is devoid of danger, although the abdomen was opened to the extent of seven inches, and the tumor cut into; that it afforded perfect command of the situation—permitting an accurate determination of the character, extent, and relations of the growth—which could have been gained by no other method; that, although the subject of grave pulmonary disease, this was not aggravated; but, on the other hand, the general condition of the patient was markedly improved; that the tumor itself was, apparently, beneficially influenced by the procedure, diminishing several inches in all directions, and remaining so five months after operation, when the last examination was made.

CASE. *Large, solid, abdominal tumor (splenic); pulmonary tuberculosis; exploratory laparotomy; adhesions dense and extensive, with such vascularity as to prevent removal; improvement in systemic condition; diminution in size of growth; prompt recovery from operation.*—Lucy W., mulatto, æt. thirty-six, domestic; married, 7-para; medium stature, but frail, slender, and not strong. Family history good as far as known. She has always enjoyed moderate health, with no severe sickness except occasional malarial outbreaks, and two or three attacks of hæmoptysis within the past year. She considers herself well at present, although she is somewhat

enervated, has a little cough, and complains of loss of appetite.

About two years ago she consulted me relative to a movable lump in the left side, with the dimensions of a cocoanut, and which then had been noticed for a year or longer. It was painless, and only gave annoyance from its size and location. Examination showed it to be of the above description, occupying the left hypochondriac and lumbar regions, adherent apparently to the anterior abdominal wall for an area of two inches, and presenting the shape, consistency, and other characteristics of a hypertrophied spleen. In addition, miliary tuberculosis of the left lung was diagnosed. She was also several months advanced in pregnancy. Quinine, arsenic, etc., were prescribed, and she was advised to return at intervals.

She was not seen again until July 21, 1887, when she returned on account of the rapid enlargement of the tumor, which was double its former size. The late pregnancy seemed to have given an impetus to its development. The growth was slightly tender, and, at times, quite painful, which, together with its dragging weight and size, produced extreme discomfort. It extended from beneath the ribs on the left side vertically downward within the boundary of the left inguinal region, and transversely beyond the middle of the epigastric and umbilical spaces. More fixed in its position, and the area of attachment to the abdominal wall had extended with its increased dimensions. It had very much the feel and contour previously noted, with the exception of a prominent anterior lobe (the portion adherent to the abdomen), below which was a cleft in the lower edge, which appeared to correspond to the notch frequently met with in the spleen. Manipulation and pressure did not cause pain. The uterus was free and movable. She had lost flesh considerably, was weak and anæmic, and there was some increase in her cough, and a little expectoration. She was nursing her infant of thirteen months. Physical examination showed increase in pulmonary trouble, there being subclavicular dulness on both sides, especially the left, with prolonged, jerky, and harsh breath-sounds, lessened expansion, with depression. She had had a moderately large hemorrhage several days since. A rough estimate revealed a slight increase in white blood-cells. I advised weaning the child; ordered cod-liver oil, iron, etc., and suggested that an exploratory operation should be performed a few weeks later, and the removal of the tumor, if found practicable.

Sept. 12. General condition improved; size of growth increased, especially in the transverse direction. Its vertical length measured eleven inches; transverse length was thirteen and a quarter inches; and the circumference of the body around the most salient part of the growth equalled thirty-one and a half inches. Abdominal raphé displaced to the right. Numerous large veins course over the abdomen. Umbilicus pouting.

21st. Admitted to the Providence Infirmary, and placed on preparatory treatment.

26th, 1.30 P.M. Operation under ether. Strict antiseptic precautions, without the spray. A median incision, which it was necessary to lengthen to seven inches, disclosed a firm, solid, capsulated growth, so densely adherent on all sides as to be inseparabl blended with the attached structures, and exceedingly vascular, with large vessels distinctly visible beneath the capsule. The adhesion with the anterior abdominal wall was dissected loose to the extent of about one inch, in which the capsule was necessarily torn and the tumor superficially cut into, but the hemorrhage was so excessive as to render removal of the growth much beyond the limit of safety. For the control of the bleeding eight suture-ligatures of gut were required. Cavity washed out with a 1 : 8000 sublimate solution to remove blood, wound united with continuous catgut suture (peritoneum separately, then muscles, fascia, and skin), line of incision painted over with iodoform collodion, pads of sublimated gauze and cotton adjusted, over which was placed a wide flannel bandage. The operation, including dressing, lasted one hour, one-third of this time being employed in arresting hemorrhage. No shock, and reaction prompt. Six hours after operation the patient was resting nicely, without pain or uneasiness, with pulse 100 and temperature 99°. The subsequent progress of the case was uneventful, except, on the twelfth day, an attack of surgical mania of a night's duration. The highest temperature reached was 101°, pulse 130 and feeble, on the evening of the second day (September 27th), but under quinine in full doses, combined with digitalis, it gradually declined and fell to the normal on the eighth day. Liquid food (milk) was allowed on the second day, prior to which time water alone was given. Bowels moved by enema on sixth day.

Oct. 6 (eleventh day). Examined wound, which is dry and firmly united, the sutures coming away attached to the collodion pellicle, thus healing under a single dressing.

Patient up and walking about on the fourteenth day, and discharged on October 11th, two days later.

To the eye the abdomen appears decidedly reduced, which is confirmed by measurements, showing circumference of body around tumor to be twenty-eight inches; vertical diameter nine and a quarter inches; and transverse diameter ten inches.

Notwithstanding the confinement, etc., she has gained flesh, and professes to feel better than for a year.

Feb. 20, 1888. Reëxamination indicated no increase in growth—the dimensions remaining unchanged—and her general health is still improved. She is able to do light work, and experiences no inconvenience or discomfort from the tumor.

N. E. CORNER JOACHIM AND CONTI STS.

FRACTURE OF THE LARYNX.

BY M. HOWARD FUSSELL, M.D.,
OF MANAYUNK, PENNSYLVANIA.

A CASE of this rare injury came to my notice on July 9, 1887, under the following circumstances:

The patient, Edward E., æt. fifteen years, a catcher of a local baseball nine, was engaged in a game of ball with some of his fellows on a half holiday. He

was in his position behind the bat, two men were on bases, he wore his mask and stood close behind the batter. A ball was pitched and the batter made what is technically called a "foul tip"—that is, the ball was struck by the bat, but in such a position that it was driven backward with great velocity instead of forward.

The patient, as is stated, wore a mask, but just before the ball reached him, he threw his chin upward and the ball struck him squarely in front of the neck. He did not immediately fall, but threw off his mask and placed his hands to his neck. In a very short time he spat up considerable pure blood, and breathing began to become difficult. He walked several hundred yards and spoke several times, but at the end of half an hour he became unconscious and remained so until after tracheotomy was performed.

I saw him one hour after the accident. At that time he was unconscious, his face and hands deeply cyanosed, and bloody froth exuded from his mouth. His breathing was stridulous, much like that of a child in the last stages of membranous croup. On examining the front of the neck it was found flattened and considerable emphysema on both sides of the neck. On the least manipulation of the larynx fearful paroxysms of suffocation would come on, and crepitation between the alæ of the thyroid cartilage was plainly felt.

With the kind assistance of Drs. Griffith and Trites, of this place, tracheotomy was performed. The patient made such violent struggles on the trachea being touched that it was absolutely necessary to administer an anæsthetic. A very small amount of ether was administered carefully by Dr. Trites. As rapidly as possible a cut was made down to the trachea, the veins were much engorged and great care had to be exercised in order to prevent laceration of the swollen vessels. In a few minutes the trachea was reached. Just before I was able to open the trachea respiration ceased completely. I hooked up the trachea with a tenaculum, made an incision through three rings and slipped in the tracheotomy tube. Still the boy did not breathe. His heart was beating, though feebly. I immediately performed artificial respiration after the Silvester method. A large amount of bloody froth issued from the tracheotomy tube. After several artificial movements of the chest wall, the patient took one long inspiration and again stopped. Artificial movements were again performed, and finally, after an almost inconceivable amount of bloody froth was pumped out, the boy breathed regularly and his heart-beat rapidly became stronger.

After he had been breathing for about fifteen minutes, the tube, which was short, slipped from the trachea. It was immediately replaced only to slip again after a few minutes. It was again replaced, but before replacing it a stitch was taken through the edge of the trachea. The tube was then replaced and the thread connecting with the trachea tied around the shoulder of the tube. This was necessary because the tube was a short one, and the only one in the place. If the trachea was not drawn up toward the tube it continually slipped. From that time on the patient breathed more and more naturally. In half an hour he opened his eyes and answered questions by nodding his head.

The trachea was opened about 5 P.M. At 8 P.M. the patient was doing excellently. I retired from the room for about fifteen minutes. When I returned I found a deepening cyanosis, the tube was in place and bloody froth was again exuded with each act of respiration. The lungs were again becoming congested. The pulse was 90, full and strong. I turned to get my hypodermatic syringe; before I reached the table respiration stopped abruptly. I quickly felt for the pulse but it was absent. No action of the heart could be heard or felt.

By an unfortunate combination of circumstances a post mortem was not secured. As stated above, however, crepitation between the alæ of the thyroid was plainly felt. When I removed the tube after death I examined the trachea as carefully as possible and found it almost entirely occluded above the incision. The occlusion was apparently due to the thyroid being pushed backward. The tube was in place and free from obstruction.

So far as I am able to discover, this is the seventieth recorded case of fracture of the larynx and the fifty-fourth death.

The case is unique in its cause and in the mode of death.

When the peculiar risk to a ball-catcher is taken into consideration it seems strange that such an accident should not have occurred before.

The recorded deaths, which have occurred suddenly, have all been before tracheotomy, and generally due to increasing dyspnœa from œdema. Atlee reports a case where death occurred suddenly from general emphysema.

In my case the breathing was normal just previous to death, save a slight congestion of the lungs due to the remains of the first severe congestion. The ingress and egress of air were not impeded.

The character of the pulse less than a minute before death being so excellent, and the sudden stoppage of the heart would suggest as the cause of death a sudden pressure on the pneumogastrics in the neck.

In the absence of a post mortem it is, of course, impossible to state the condition of the surroundings of these nerves, but the swelling of the neck progressively increased from the time the patient was first seen.

It is scarcely probable that administration of the ether (which was necessary owing to the struggles of the patient and the lack of intelligent assistants) could have had any part in causing the fatal result, three hours having elapsed between the administration and death. There was no organic disease of the heart shown by physical examination.

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TREATMENT OF CHRONIC BRONCHITIS IN CHILDREN.

BY THOMAS J. MAYS, M.D.,
PROFESSOR OF DISEASES OF THE CHEST IN THE PHILADELPHIA POLYCLINIC.

A GOOD deal is said in our text-books on the treatment of acute bronchitis in the child and in the adult, but there are cases constantly occurring in the practice of every physician which do not fall under the description of the acute form of this disease, and which pursue rather a chronic or subacute course. A child from two to ten years old, and even younger, is brought before you, who has had a cough for some time, which is accompanied by yellow expectoration in the morning but is of a lighter color during the day. The child is able to be about, but its respirations are accelerated, and are short and shallow; the pulse is quickened; there is occasionally a flush in the face, probably a slight rise in temperature; night sweats; loss of flesh; dyspnœa; poor appetite; coated tongue; and the presence of general debility. On inquiry you will find that some months previously this child contracted "a cold," or had an attack of measles, or whooping-cough, from which it made an imperfect recovery and consequently has not felt well since.

Palpation of the chest probably reveals a fremitus over the central portion of the chest, both anteriorly and posteriorly; there is no dulness, but rather increased percussion resonance, and a roughened, blowing respiration is heard over the whole chest which may be accompanied by rhonchi, mucous and sibilant râles, audible especially in the morning after rising. Coughing will remove the râles, but not the blowing breathing.

Quite an extended experience in the treatment of these cases teaches us that persistent counter-irritation is of the first consideration. If there is much impediment to the ingress and egress of air, or, in other words, if there is much dyspnœa, the child is at once placed in bed, the chest is enveloped with a hot flaxseed meal poultice (covered well with oiled muslin) which must be changed every three hours. In most cases, however, it is not necessary to order the child to bed, and counter-irritation is produced with a mild croton oil liniment. Croton oil and sweet oil, well mixed in the proportion of one to two parts of the former to six of the latter, is well rubbed into the skin of the child's chest—in front, under the arms, and between the shoulder-blades, not with a flannel or cloth, but with the mother's or nurse's fingers, twice a day, and then the chest is well covered with a layer of cotton-wool. It is important that as much as ten or fifteen minutes be spent in rubbing the liniment well into the skin, after which the hands must be thoroughly washed. In the course of four or five hours a red blush of the skin will appear, ending in fine, yellow-pointed pustules. Simultaneous with this eruption the cough becomes easier, the expectoration more free, the dyspnœa less—in fact the most remarkable change will be brought about in the little patient.

Our attention was first called to the usefulness of this application by Dr. Park in a short contribution to the London *Practitioner* for March, 1882 (p. 170), and although he principally recommends it in acute bronchitis, we can say that we have found it as useful in the form of bronchitis here described as he did in the acute form of the disease. Indeed, we may add that we have also given it a fair trial in acute catarrhal affections of the chest in children and never had any reason to feel disappointed with its action.

The internal treatment must be directed toward a stimulation of the bronchial mucous membrane, and toward a recovery of the appetite. The former will be attained in a great measure by the following combination:

℞.—Ammoniæ murias. . . . ʒj.
Ex. euphorbia pil. fld.,
Tinct. digitalis . . . . āā fl. ʒiij.
Atropiæ sulph. . . . . gr. $\frac{1}{70}$.
Chloroformi . . . . gtt. xij.
Syr. tolu,
Syr. picis liquid. . . . āā q. s. fl. ʒj.
Aquæ . . . ad. q. s. fl. ʒiv. M.
Sig. One teaspoonful every three hours.

For the purpose of aiding digestion, and as a general tonic the following will be found useful:

℞.—Acid. phosphorici (dil.),
Acid. nitromuriatic. (dil.),
Acid. sulphuric. aromat.,
Tinct. ferri chloridi . . āā fl. ʒss. M.
Sig. Thirty drops in sweetened water after each meal three times a day.

The diet should be exceedingly liberal, although no food must be allowed which is likely to disagree. Our main reliance must be placed on rich milk, soup, oatmeal, beef, mutton and other kinds of nutritious food. At no time during the treatment is it necessary to confine the child within doors during pleasant weather. Indeed, out-door exercises should be encouraged as much as possible.

MEDICAL PROGRESS.

Oil of Gaultheria and Salol in Rheumatism.—DERCUM reports his experience in the use of these drugs as follows in the *Journal of Nervous and Mental Diseases* for January, 1888:

Regarding the dose of oil of gaultheria, I have been in the habit of prescribing ten or twenty minims of the oil to be taken at intervals of three or four hours. This has, on the average, proved sufficient to produce marked impression within twenty-four or forty-eight hours, as evidenced by the subsidence of pain and ringing in the ears.

Occasionally I have given it in larger doses and at shorter intervals. In one instance, a case of muscular rheumatism in which the pain was obdurate and excruciating, I gave a half drachm every two hours, with the result of a rapid, absolute, and permanent relief. In this patient, five or six doses of the drug were taken before marked symptoms of gastric disturbance became evident. The fifth or sixth dose—I do not remember exactly which—was rejected by the stomach. The patient's pulse became rapid, the tongue coated, and his nausea was extreme, and to judge by the description given by himself, "cinchonism" was excessive. He described the ringing in the ears as frightful. However, he reacted quickly, and although he had been sickened by the oil he was cured of his pain. On the following day, in fear that his pain might return, he of his own accord resumed the drug in smaller doses.

Under circumstances in which the patient ceases to be tolerant of the drug, it has been my habit of late to fall back on salol.

In my own experience, salol has special virtues of special application. It is an almost tasteless, fatty, insoluble powder, which is as bland and unirritating to the mucous membrane of the stomach as so much powdered paraffine would be. It is apparently not acted upon by the gastric juice, but depends for its digestion upon the pancreas. At least it is decomposed in the small intestine into salicylic and carbolic acids. This change likewise takes place when salol is mixed with pancreatic secretion or with pancreatic tissue outside of the body.

As far then as the stomach is concerned, it is innocuous and inert, and it frequently proves a grateful relief to that viscus, especially when the oil of gaultheria or the salicylate of sodium has been given for some time. Judging from my own experience, it is slower in producing its physiological action than the other salicylates. The effect is not as pronounced and much less prompt. That it is, however, efficient in the same class of cases as the oil of gaultheria there can be no doubt. I generally prescribe fifteen or twenty grains to be taken every three or four hours. The effect is gradually produced, and is manifested in large doses by more or less "cinchonism." Curiously enough, I have noticed that the ringing in the ears is less, but the deafness more marked, than from the gaultheria. Occasionally patients will mention the darkening of the urine due to the presence of carbolic acid.

Now and then patients object to the drug on account of its greasy feel and greasy taste, and sometimes of their own accord ask to be placed back on the gaultheria. Occasionally, of course, it is well to alternate the gaultheria, instead of with salol, with the sodium salicylate.

Further Testimony to the Value of Creasote for Phthisis.—VON BRUNN, in the *Berliner klinische Wochenschrift* of February 20, 1888, reports that in the past eight years he has treated 1700 cases of pulmonary phthisis with creasote, with good results. His cases were not only the ambulatory patients in whom there was no marked rise of temperature, but also cases in which tuberculosis was making active progress. The best results were obtained in acute cases in which the temperature became nearly stationary after a period of fever, and in which the lesion was generally catarrhal and unilateral. Regarding dosage, von Brunn considers it an error to give less than six or seven minims of creasote daily; he has not exceeded seven minims daily, and considers it essential to continue this treatment for at least several months. He believes with Sommerbrodt that the more creasote which can be borne the better. The creasote wine originally prescribed by Bouchard was found to be the best form for administration:

Creasote	13 parts.
Tr. gentian.	30 parts.
Spts. vini rect.	250 parts.
Vin. Tokaya, or Malaga .	ad. 1000 parts.—M.

Sig.—Teaspoonful well diluted with water three times daily.

Tuberculous Laryngitis Cured by Lactic Acid and Iodoform.—LUC reports, in *L'Union Médicale* of February 16, 1888, the case of a young woman who was the subject of pulmonary tuberculosis, and in addition tuberculosis of the larynx. After anæsthetizing the larynx with a solution of cocaine, 1 to 5, he destroyed the granulations most prominent with the electric cautery. The subsequent treatment was the application of lactic acid fifty per cent., and powdered iodoform. The laryngeal lesions healed; the pulmonary condition was uninfluenced.

Iron in Purpura.—A chemical examination of the blood, bile, pleuritic effusion, brain, liver, spleen, marrow of the bones, kidney, lungs, and lymphatic glands in a case of purpura has been made by DR. ZALESKI, and published in the *Russian Military Medical Gazette*, his object being to determine whether this disease, which is called by him "morbus maculosus Werlhofii," is associated with any increase in the quantity of iron in the body, as some results obtained by Hindenlang and Kunkel appear to indicate. Dr. Zaleski found that, so far from this being the case, the iron was diminished by something like a half. He found no inorganic iron compounds like those described by Kunkel, but most of it existed in the form of an albuminate; some, however, was found in the pigment spots in very stable compounds similar to hæmoglobin. More iron appeared to exist in the gray than in the white substance of the brain.—*Lancet*, Feb. 18, 1888.

Formulæ for the Use of Hydrate of Amylen.—FISCHER is quoted by *L'Abeille Médicale* of February 20, 1888, as using the following formulæ:

Amylen hydrat.	grs. 100.
Aquæ destill.	ʒ 3½.
Ext. glycyrrhizæ	ʒ 2½.

Half to be taken on retiring.

With morphia:

Amylen hydrat.	grs. 90.
Morph. hydrochlor.	gr. ¼.
Aquæ destillat.	ʒ 15.
Ext. glycyrrhizæ	ʒ 2½.

Half to be taken on retiring.

Per rectum:

Amylen hydrat.	grs. 75.
Aquæ destill.	ʒ 12½.
Mucilag. gummi Arab. . . .	ʒ 5.

And with morphia:

Amylen hydrat.	grs. 60.
Morphiæ hydrochlorat. . . .	gr. ¼.
Aquæ destillat.	ʒ 12½.
Mucilag. gummi Arab. . . .	ʒ 5.

Antiseptic Midwifery in the Boston Lying-in Hospital.—In a recent discussion upon the subject of antiseptic midwifery, DR. WILLIAM L. RICHARDSON, in closing the discussion, said he had been fourteen years at the head of the Boston Lying-in Hospital, where septicæmia had been so prevalent that they had repeatedly been compelled to close the hospital. Since the introduction and adoption of the antiseptic method in 1885, they have had over nine hundred confinements, without a death from septicæmia. With regard to diagnosis, he thinks peritonitis a comparatively rare complication of septicæmia, but regards a temperature of more than 100° F. as evidence of it. Milk fever, swelled legs, mammary abscess, sore nipples, pneumonia, are all evidences of it. Under the antiseptic method, women pass through the puerperal period without any rise of temperature whatever, and torn perineums unite by first intention without the slightest difficulty.

He considers the physician responsible if a death occur from any of the above enumerated causes. In his opinion, the question is bound to assume a medico-legal aspect, and it will go hard with a physician who loses a patient from any such cause, unless he can succeed in shifting the responsibility on the nurse. With regard to technique, it makes no difference whether pads or towels are used, or whether the pads are used wet or dry. Garrigues uses them wet, but in Boston they are used dry, because the wet pad, if long continued, may cause eczema, and, possibly, mercurial poisoning. He has abandoned the post-partum douche, except in cases where it is positively indicated,

There is little danger of absorption from the endometrium, but much more danger that the mercurial will be absorbed in the folds and small rents so constantly present in the vagina. Digital examinations may be practised *ad libitum* previous to delivery, provided the examining finger be washed in the mercurial before introduction.—*Boston Medical and Surgical Journal*, March 1, 1888.

An Ice-bag over the Spleen in Typhoid Fever.—WEICHARDT has employed an ice-bag wrapped in flannel, laid over the spleen in typhoid fever, and thinks that a reduction of temperature and a hindrance in the development of bacilli resulted.—*Präger medicinische Wochenschrift*, January 11, 1888.

A Sugar Test.—MR. MARSON recommends sulphate of iron and caustic potash as a test for the presence of sugar in urine. One and a half grains of the pure salt are dissolved in about 120 minims of urine by the aid of warmth, then five grains of caustic potash added and boiled. If sugar be present, a dark green precipitate will form, the superjacent liquid being reddish-brown or black, according to the amount of sugar. If no sugar be present, the precipitate is greenish-brown in color, and the liquid is colorless.—*Medical Press*, February 15, 1888.

Aseptic Leaden Bullets.—ROLLAND, by experiments upon animals, has found that, so far as the eye is concerned, it is neither the form nor the chemical composition of the grains of lead, but the asepticity that accounts for their not producing panophthalmitis after penetrating the vitreous. This asepticity is due to their disinfection by the deflagration of the gunpowder.

Secondly, when leaden pellets are not sterilized immediately before entering the eye they produce panophthalmitis with the same frequency as other metallic bodies. If copper, iron, or brass fragments are similarly sterilized by gunpowder, they are as harmless as lead shot in producing panophthalmitis.—*Medical Chronicle*, Feb. 1888.

Formulæ for the Treatment of Chronic Coryza.—MACKENZIE prescribes a nasal douche containing the following powder dissolved in half a glass of warm water:

Sodii bicarbon.,	
Sodii biborat.,	
Sodii chlorat.	āā grs. 6.
Sacchar. alb.	grs. 15.

The temperature of the solution should be 98.6° F. The fluid may be snuffed up the nostrils, or injected by a small syringe.

MOURE prescribes an antiseptic douche of

Acid. carbol.	parts 20.
Glycerin.	parts 100.
Alcohol	parts 50.
Aquæ	parts 350.

Of which a teaspoonful or dessertspoonful should be added to a pint of warm water.—*L'Abeille Médicale*, February 20, 1888.

Spontaneous Rupture of the Rectum.—DR. QUÉNU, in his clinical lesson at the Beaujon Hospital, treated of spontaneous rupture of the rectum, and related in detail the following case, which is not wanting in interest. A woman, æt. sixty, of a very weak constitution, had suffered for the last six years from a prolapsus of the rectum, which, however, she reduced with facility. Being habitually constipated, she made a free use of purgatives, and frequently passed blood. For the last six weeks she seemed to suffer more than usual, and kept her bed. The day of the accident she made great efforts in defecation, and suddenly she felt something come down, and great pain followed, with a considerable loss of blood. A doctor who was called in ordered her to be sent to the hospital, and when M. Quénu arrived he found the woman pale and cold, and on raising the chemise a portion of the intestine a yard in length was discovered black and shrivelled. Introducing the finger into the rectum, a large rent by which the intestine escaped was felt in the anterior wall. Under chloroform, the abdominal wall was incised in the median line, and nothing but blood was discovered. The herniated intestine was removed close to the anus, but all attempts to suture the rent were useless. Iodoform dressing completed the operation. The patient succumbed on the following day. The autopsy revealed a rent of an inch and a half in length, and a considerable amount of varicose veins, which M. Quénu considered pathogenic.—*Medical Press*, February 8, 1888.

The Toxic Principles of Snake Venoms.—VINCENT RICHARDS writes, in the *Indian Medical Gazette* for December, 1887, in support of the conclusions reached by Weir Mitchell and Reichert, that the active principles of snake venoms are proteids, and not alkaloids. He cites the conclusions of Norris-Wolfenden and Gibbs on this point, which agree fully with those of Mitchell. Wishing to secure, if possible, a consensus of opinion from those

who have studied the subject, he addressed a communication to Gautier, enclosed a specimen of cobra venom, and asked him to report his studies in the light of recent investigations. The conclusions which Gautier has reported from his latest experiments are at variance with those of all other authorities, and Richards considers them based upon the examination of too small a quantity of venom.

Richards, in agreement with Mitchell and others mentioned, considers that the action of alkalies and of heat upon serpent venom confirms the view that these poisons are not alkaloids, but proteids.

Nitro-glycerine in Epilepsy.—OSLER, in the *Journal of Nervous and Mental Diseases* for January, 1888, reports his use of nitro-glycerine for epilepsy, as follows:

I have notes of nineteen cases in which the nitro-glycerine was tried for periods ranging from six weeks to six months. In thirteen of these cases there were severe epileptic seizures, six were instances of *petit mal* with occasional convulsions. Briefly stated, in nine cases there was improvement, as shown in the reduction of the frequency of the attacks. Of these, six were cases of major epilepsy; and three, instances of petit mal. The benefit was usually manifested within a week or ten days. Thus case 16, a man aged twenty-seven, had had fits for ten years; and when seen, April 5th, had as many as two or three a day. He had taken potassium bromide largely, and at one time with great benefit. Antifebrin was given in gr. viij, two or three times a day, but seemed to be without any influence. On June 1st, nitro-glycerine was given, ♏v of the one per cent. solution, three times a day. Within a week the attacks were greatly lessened, and in the second week after beginning he had only two attacks. He continued to take it all through the summer, getting up to ♏viij doses, t. i. d. He does not think that anything he has ever taken reduced the fits so much. On November 11th, he stated that he had stopped it for a month; the attacks have recurred less frequently, and he had been able to be at work.

In some of the cases in which the betterment was most striking at first, the remedy seemed to lose its influence, and after a month or two had to be abandoned. I cannot say that in any one of the nine cases the improvement has been more than temporary. In two of the cases of petit mal the attacks were greatly reduced, and one patient remained free for two months, but I learn by letter that the attacks have returned. Altogether my experience has not been very encouraging. We may say that, in a limited number of cases, when the bromides have failed or are beginning to lose efficacy, nitro-glycerine may be used with advantage. I have also used the nitrite of sodium in a few cases with indifferent success.

Albuminuria and Renal Lesions Following the Injection of Albumen.—SNYERS, in *L'Union Médicale* of February 14, 1888, reports the results of the injection of albumen in animals as follows:

The albuminuric dyscrasia caused by injections of white of egg, ceases in twenty-four hours after injection; white of egg being useless as such in the organism is eliminated by the kidneys without producing a lesion of those organs. After thirty days' continued injections histological examination fails to reveal lesions of the kidneys, from which it is concluded that injection of albumen fails to produce even physiological albuminuria.

Salicylic Collodion.—BIVERT, an apothecary of St. Petersburg, finds the following a successful formula for preparing salicylic collodion:

℞.—Collodii	. . . . .	parts 100.
Acid. salicylic. crystall.	. .	parts 10.
Terebinth. venet.	. . .	part 1,
Chlorophyli	. . . .	q. s.

This collodion is especially useful as a remedy for corns.—*London Recorder*, Jan. 20, 1888.

Death by Suffocation in Phlegmonous Tonsillitis.—DR. WAY reports, in the *Medical Record* of February 25, 1888, a case in which he had incised the tonsils for phlegmonous inflammation, with temporary relief.

On the following morning I visited him, and found the tonsils swollen about as badly as on the previous afternoon, prior to my incising them. He reported himself as having been able to sleep some during the night, though not so well as he should have liked. His temperature was 102.6° F.; pulse 96; and general condition as good as usual in similar attacks. I applied iodo-tannin to the inflamed glands, and also an emollient poultice to the neck over the situation of the tonsils. The quinia and gargles were also continued, and the patient was advised to remain in bed. At 10.30 P.M., I visited him again, and found him in about the same condition as in the morning. His pulse was 94; temperature 102°; he had been able to take some fluid nourishment during the day, and said he believed he would be able to get out on the morrow, if he could only get some sleep.

His throat presented much the same appearance as in the morning. I again administered the hypodermatic of morphia (gr. $\frac{1}{8}$) and atropia ($\frac{1}{120}$), as on the previous evening, and a few minutes later retired to a room on the same floor of the building, two doors removed from the patient. An hour and a quarter later I was hastily summoned to attend my patient by a gentleman who was occupying the same apartment with him. His tone betokened alarm, and without dressing, or waiting to question him, I hurriedly repaired to his room. My patient was dead! Intravenous and intracardiac injections of ammonia, with artificial respiration practised more than half an hour, failed to elicit at any time the slightest evidences of vitality. Examination of the body of the deceased revealed the fact that the upper pharyngeal region and the larynx, especially the latter, contained a large quantity of pus and broken-down tonsillar tissue, derived from the rupture of the right tonsil. There were no evidences of cardiac or renal disease; *per contra*, the deceased had always, saving the frequent attacks of tonsillitis, enjoyed excellent health.

From his companion I learned that within fifteen or twenty minutes subsequent to my departure he had sunk into a peaceful slumber, breathing quietly and without any difficulty for almost an hour. He then seemed to stop breathing for a moment, but soon made one or two ineffectual gasps for breath, which so alarmed his companion that he rushed out of the room and down the hall to my room. In not more than one minute from the first respiratory difficulty I was at the bedside, but the life-principle was then entirely extinct.

Theine in Pain.—In the *Journal of Nervous and Mental Diseases* for January, 1888, MAYS reports the following formula for the use of theine in pain in various regions of the body:

℞.—Theinæ,
Sodæ benzoat. . . . āā ℥j.
Sodæ chloridi . . . . gr. viij.
Aquæ . . . . . f℥j.—M.

Sig.—For hypodermatic use. Six minims equal one-half a grain of theine.

Administered to a properly adapted case, theine is surprisingly prompt in its analgesic action. He has on numerous occasions observed patients with lumbago, who were too stiff to bend their bodies, or had almost too much pain in their back to rise from a chair or sit down after they were up, comfortably straighten their bodies in less than five minutes after its introduction. When not so prompt, it is probably due to the small size of the dose, and where one-half of a grain does not produce the desired results, it should be increased to one, or even two grains.

When injected, it gives rise at first to some burning, but it does not produce any prolonged irritation or inflammation. The burning is soon replaced by an area of anæsthesia.

The Treatment of Lead Colic by Rectal Injections of Ether.—TORRE, in the *Bulletin Général de Thérapeutique* of February 15, 1888, reports that he has given ether per rectum for the spasms of lead colic with good results. He employed a flask containing about a drachm and a half of ether, to which was attached a rubber tube of convenient length and terminated by the canula of an irrigator. The injection of fifteen to twenty minims of ether was often sufficient to mitigate a severe spasm when enemata of castor oil and soapsuds were given to relieve constipation.

A Positive Test of Death.—MASCHKA has advanced the theory that a burn upon the surface of a cadaver is not followed by the formation of blebs, as upon the living body. He advises the actual cautery as an infallible test in cases of suspected death.—*Präger medicinische Wochenschrift*, January 18, 1888.

A Tonic Pill, for Use in Phthisis.—In the *Therapeutic Gazette* of February 15, 1888, BRUEN gives the following formula:

℞.—Iodoformi . . . . . gr. ½.
Acid. arseniosi . . . . gr. $\frac{1}{10}$ to $\frac{1}{10}$.
Pil. ferri carb. . . . . gr. j.
Ext. cannabis ind. . . . gr. $\frac{1}{3}$.
Quiniæ sulph. . . . . gr. j.—M.

Diet in "Large White Kidney."—The *Medical Press*, of February 15, 1888 writes that the condition known as the "large white kidney," a malady of tolerably common occurrence, is due in a large number of cases to the chronic irritation set up in the eliminatory organs by the excretion of incompletely oxidized nitrogenous matter resulting either from excess of nitrogenous material ingested or from hepatic or other visceral disease. In either case it is important to bear in mind that the object to have in view is to reduce, or at any rate not to augment, the quantity of these partially oxidized products. For this reason albuminuric patients should avoid foods containing an abundance of these extractives. Beef tea, beef extracts, and the like are little less than poison to them, as they infallibly accentuate the irritation and aggravate its results. It has been found that the systematic subcutaneous injection of these substances in guinea-pigs gave rise to the characteristic renal lesions with the usual train of symptoms, the severity of which was in direct proportion with the quantities injected.

The Treatment of Follicular Enteritis.—WIDERHOFFER, in addition to a strict limitation of diet in these cases, employs enemata of mucilaginous fluids containing small quantities of opium. A child of six months would receive an injection of twelve and a half drachms of fluid, with one drop of tinct. opii.

Intestinal lavage is usually performed with about one quart of a solution of salicylic acid, 3 to 1000, which is considered preferable to carbolic acid. A solution of chlorate of potassium is also useful. In the more advanced stages of the disease astringents—alum, rhatany, or tannin—may be employed. Guarana, in doses of three-quarters to three grains in five or six daily doses, may be given by the mouth as follows:

Guaranæ pulv. . . . . gr. ¾ to 3.
Sacchr. pulv. . . . . q. s.

Tannate of quinia, in doses of three-quarters to two and a half grains, has been used with excellent results. Widerhoffer urges great caution in convalescence, as prolonged digestive troubles follow these patients.—*Revue Gén. de Clin. et de Thér.*, February 16, 1888.

Fatal Somnambulism.—The *Boston Medical and Surgical Journal* of February 23, 1888, reports that on the night of the 15th inst., a gentleman aged sixty-eight years, residing at Oak Knoll, Danvers, Mass., left his bed while asleep, and walked forth from his house clad only in his night-shirt. He was found the next morning frozen to death, about a quarter of a mile from his house. The thermometer marked from eight to ten degrees below zero that night. The same man, who had been afflicted with somnambulism for some years, is said to have nearly perished in a similar way once before. He went from his house one cold night, but was observed and brought back, having, however, to suffer the amputation of a finger that was frozen.

Chloride of Methyl in Neuralgia.—DR. ABRAHAM JACOBI has used chloride of methyl in five cases of trigeminal neuralgia; two were old cases, three recent ones. In one case there was relief and cure after the first application. In the two old cases relief followed two applications. One case was that of hyperæsthesia along the whole course of the trigeminal; the first application gave relief, and at a recent date a letter from the patient states that there has been no return of the trouble. In a case of neuralgia with pain extending through from breast to scapula, instantaneous relief was obtained, but the pain recurred; in this patient every remedy had been fruitlessly tried, except morphine; the latter alone had afforded relief.

As to pigmentation of the part sprayed by the methyl,

Dr. Jacobi has had only one case that can be called serious: the discoloration seems, in this instance, to be permanent, but he does not regard this feature as a sufficient objection to forbid the use of the remedy. He further says, "I can imagine nothing more easily manipulated and of more instantaneous action than the methyl spray. It has not the continuous pumping of the other sprays." He had not been able to carry his experiments as far as he desired for the reason that his supply of the methyl had been limited.

The abstract given above has been taken from the discussion of a paper by Dr. Thallon, in the *Brooklyn Medical Journal* for January, 1888.

The Treatment of Furuncles by Intestinal Antisepsis.—BOUCHARD, in *L'Union Médicale*, of January 21, 1888, reports good results in general furunculosis from

Naphthol (β)
Bismuth. salicylat.
Magnesiæ, ... āā gr. 5.

repeated four times daily.

A Hairpin in the Peritoneum.—DR. FREUND, of Strasburg, describes in the *Centralblatt für Gynäkologie* of December 17, 1887, a case where a hairpin was found in the peritoneal cavity in the course of an exploratory operation for suspected disease of the uterine appendages. The patient was a sickly and emaciated woman, aged forty-one, who had symptoms of tertiary syphilis. Her periods had been regular till about four months before she first applied for hospital relief; then they did not appear for two months; at the end of that period metrorrhagia set in, with the discharge of small shreds, and spasmodic pains in the sacral region and the hypogastrium. The discharge of blood continued for five weeks, then epileptiform fits occurred. The uterus was found anteverted, and a small oval tumor lay to its left side, connected by a tough cord with the pelvic wall. Tubal pregnancy was suspected. On March 2, 1887, an exploratory incision was made; the adhesions, which bled freely, had to be broken down, and a cyst of the left tube, "the size of an apple," was removed. It was universally adherent to surrounding structures; and, in securing some bleeding vessels to the great omentum, a piece of hairpin, an inch long, and consisting of part of the two shanks pressed close together just below their point of union, was discovered and extracted. A drainage-tube was left for twenty hours in the wound. The patient did well for a fortnight, then the stump of the tubal pedicle suppurated, and the pus which escaped contained ligature-threads. The first period after operation was attended with attacks of convulsions, which lasted eight days; but the second was only represented by the molimen without show, and by slight convulsive attacks. Ten days later a hard substance was detached, on vaginal examination, to the left of the cervix. The woman was in good health when last seen by Dr. Freund; but there were slight convulsions at every menstrual period. Should a portion of the hairpin yet remain in the pelvis, the persistence of the neurosis is readily comprehensible; should the hard body be simply an inflammatory deposit, the persistence of the symptoms would be a feature already observed in other cases, where self-evident causes of nerve irritation have been removed, the neurotic condition remaining for a long time after their removal. It appears that in this case the shanks of the hairpin had been pressed together, and introduced into the uterus for the destruction of an imaginary fœtus, amenorrhœa having followed cohabitation. The pin had broken, found its way into the left tube, set up salpingitis, perforated the tube, and reached the omentum. Dr. Freund shows, on carefully considered evidence, that the prevalent theory that hairpins are introduced into the genito-urinary tract, either in the belief that the practice may procure abortion, or for another repulsive purpose, is perfectly correct.—*British Medical Journal*, February 18, 1888.

Formulæ for the Use of Drugs by Atomization in Phthisis.—DR. BRUEN, in the *Therapeutic Gazette* of February 15, 1888, reports his method of treatment as follows:

The apparatus which is most satisfactory to me is the vaporizer of Codman & Shurtleff, of Boston. This firm supplies an atomizing apparatus placed in a flask, and the atomizing force is supplied from a gasometer capable of retaining air at the pressure of twenty-five pounds. The compressed air can be supplied by other forms of apparatus, as the Burgess apparatus; the essential principle being to use a dry vapor, which must be inhaled under a certain pressure, say from fifteen to twenty-five pounds. I have found great satisfaction in using one of three formulæ:

a. ℞.—Carbolic acid, . . . gr. xvj.
Compd. tinct. iodine . . ♏ xvj.
Glycerin . . . . ʒ ss.
Water . . . . . ʒ ij.—M.

b. ℞.—Terebene . . . . ʒss.
Fluid cosmoline . . . ʒj.—M.

c. ℞.—Paregoric . . . . ʒiij.
Ethyl iodide . . . . ʒss.
Chloroform . . . . ʒj.
Fluid cosmoline . . . ʒss.—M.

The first of these solutions seems to be most beneficial in the form of bronchial and lobular desquamative catarrh, combined with softening and apex cavity. Frequently in such cases the temperature can be promptly reduced within an hour after inhalation. When the treatment has been followed steadily, the effect is to modify the processes of bronchial catarrh, suppuration, and softening, and to lessen cough and expectoration, to diminish night-sweats, and most decidedly to influence the temperature. The creasote vapor sometimes produces a sensation of dryness, or irritation of the bronchial mucous membrane, which may necessitate its temporary suspension.

When the cough is very dry and troublesome the vapor of the iodide of ethyl is soothing, or I have found that the following formula, used on the Yeo inhaler, is very efficient:

℞.—Ethyl. iodidi . . . . . ʒ iv.
Chloroformi . . . . . ʒ j.
Tr. opii camph. . . . . ʒ iij.—M.

Sig.—Ten to twenty drops every half-hour for one or two hours several times daily.

I have used the foregoing formula sufficiently often to enable me to speak with precision as to its value, but I have also used the same apparatus in a number of cases

with other combinations, such as fir wood oil, one part, and fluid cosmoline, two parts; or the following:

℞.—Tr. iodinii comp. . . . . ♏ vij.
Tr. conii . . . . . ♏xv.
Glycerinæ . . . . . ℥iv.
Aq. . . . . ℥iv.—M.
Use in vaporizer.

℞. Acid. carbolic. . . . . ℈ j–℥ vij.
Sodæ biborat. . . . . ℥ ij.
Glycerinæ . . . . . ℈ ss.
Aq. dest. . . . . ad ℥ iv.—M.
Filter and use in vaporizer.

The Antiseptic Value of Naphthol.—MAXIMOVITCH, in recent experiments, found that alpha-naphthol is less toxic than beta-naphthol, of greater antiseptic value, and that the amount necessary to intoxicate a man of ordinary weight is about one pound.—*Gazette Hebdomadaire*, February 10, 1888.

Zooplastic Grafts.—Surgeons are familiar with skin grafting in the human subject, but it is rather a novel procedure to substitute the skin of birds and poultry for snips from the patient's own healthy skin. Wiesmann twice transplanted skin from pigeon to pigeon with success, and three times from fowl to fowl. Under the title of *Dermepenthesis*, Mr. G. F. Cadogan-Masterman published some interesting cases a few weeks since in our columns, in which he had succeeded in utilizing the skin of young wild rabbits for the purpose of bringing about the cicatrization of raw and ulcerating surfaces. Several others have repeated and varied Wiesmann's experiments, but before Mr. Masterman none of them seem to have been enterprising enough to spare their patients the disagreeable snipping incidental to the operation as it is usually practised. At about the same time Dr. Redard communicated to the Paris Academy of Medicine some observations of his own with animal grafts on wounds in human beings. In a case of severe burn of the scalp of eight months' standing, in a child two years of age, he obtained rapid cicatrization by means of grafts from a fowl. He first tried grafts of frog's skin, but as these proved to be repulsive to patients, and did not give very good results, he substituted others from the fowl, and the wound, which measured three inches by two and a half, had completely healed in two months. He had been equally successful in other and subsequent cases. He takes the skin from beneath the wing of a chicken, carefully securing the subjacent cellular tissue, but avoiding adipose tissue. The transplanted pieces varied from a sixth to a third of an inch in size, and they were maintained in position by means of a little cotton-wool and iodoform gauze. The skin of birds and fowls has the advantage of being supple, delicate, and vascular; it adapts itself readily to the surface of the wound, and adheres without undergoing absorption.—*British Medical Journal*, February 18, 1888.

Saccharin in Diabetes.—PURDY, of Chicago, concludes as follows from his clinical observations upon saccharin, in the *Journal of the American Medical Association* of February 25, 1888:

First. That in this product we possess a flavoring agent for food and drink the palatability of which is quite equal to that of the finer grades of sugar, and which may be used by diabetic patients with the greatest impunity.

Second. That through its antiseptic properties it retards the abnormal fermentative changes in the stomach so common in diabetic patients—thus promoting digestion and relieving flatulence.

Third. That while as yet we are without sufficient practical data to judge of its blood effects in large doses to diabetic patients, yet both chemistry and physiology would indicate its use for the purpose of favorably influencing some of the more fatal complications of the disease.

What is a Stone in the Bladder?—SIR HENRY THOMPSON describes the calculi which he considers "stone in the bladder" as follows, in a communication to the *British Medical Journal* of February 18, 1888:

I venture to think that twenty grains is the very lowest weight, in the adult, the removal of which should be esteemed an operation for stone in the bladder. And in chronic prostatic retention cases, where the phosphatic concretions so frequently and so rapidly form, I have never recorded anything as a stone which has not reached at least half a drachm.

There is another aspect of the matter, too, which cannot be lost sight of. I think that it is very undesirable, from more than one point of view, to convey an impression to any patient from whom a bit of gravel weighing two or four grains has been removed that he has undergone operation for stone in the bladder, and that the custom might give support to objectionable practice.

I beg to submit these remarks to the consideration of my professional brethren, in the belief that it is desirable to have some general understanding as to the meaning of the term in question, and to adopt, if possible, a uniform method in the employment of it in future.

The Treatment of Cold Abscesses by Iodoform in Ether.—HOLSTEIN, in a recent Paris thesis, reports that in Verneuil's clinic in Paris, tuberculous abscesses have been treated for two years with iodoform dissolved in ether, with excellent results. Of 20 cases 11 were cured, 6 improved, and 3 unimproved by this treatment. After aspirating the contents of the abscess from two and a half to twelve and a half drachms of a 10 per cent. solution were injected once; in large abscesses as much as twenty-five drachms of a 5 per cent. solution were injected. If the ether proved irritating it was injected through an hypodermatic syringe. This method is especially useful where it is desired to avoid a scar.—*Centralblatt für Chirurgie*, No. 4, 1888.

Antisepsis in Ophthalmology.—SCHMEICHLER, in reviewing the advances of antisepticism, quotes the statistics of Arlt, 1700 cataract operations in eight years with a percentage of bad results of 2.06 per cent.; also Gräfe, at Halle, who performed 426 cataract operations without a bad result. He considers affections of the conjunctiva and tear sacs especially fitted for antiseptic treatment, and recommends solutions of corrosive sublimate and emulsions of iodoform, in varying strengths, for this purpose. Mercurials are to be used in 1 to 2000 and weaker solutions; the iodoform emulsion should be ten per cent. —*Präger med. Wochenschrift*, February 8, 1888.

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SATURDAY, MARCH 17, 1888.

ACUTE RHEUMATISM.

IN a recent Report of the Collective Investigation Committee of the British Medical Association (*British Medical Journal*, February 25, 1888) DR. WHIPHAM has analyzed 655 cases of acute rheumatism, chiefly sent in by country practitioners, to which class the profession is largely indebted for the valuable material composing the previous reports of this Committee.

Of the cases, 57.25 per cent. were males, and 42.25 per cent. were females. It is interesting to note how few cases were in children under ten years old, only 32 in all; 80 per cent. of the cases occurred between the twentieth and fortieth years. Of occupations, that of domestic servant heads the list with 71 cases, which Dr. Whipham attributes in part to the inordinate consumption of alcoholic drinks to which persons in this station of life are addicted, and also to the want of proper exercise with its consequent accumulation of nitrogenous compounds in the tissues. To this should be added a still more important factor, the damp, ill-ventilated rooms in which persons of this class pass a large proportion of their time.

Very careful inquiries were made as to the habits of those attacked. An elaborate analysis is given of the course and complications in the three classes —teetotallers, temperate, and intemperate persons. It is stated that on the whole the figures are in favor of the teetotallers, except in three important points: first, the average duration of the attack was 23.6 days in the intemperate males against 25.27 days in temperate males and 27.26 days in teetotallers; secondly, the percentage of deaths in teetotallers is more than double that of temperate persons; and, thirdly, the percentage of heart affections is in teetotallers 51.41 against 40.59 in temperate and 46.87 in intemperate males.

The general opinion that rheumatism is more prevalent in low, damp localities is not borne out by the figures, for by far the larger number of cases occurred in high, dry, exposed regions. More than 47 per cent. of the cases occurred when the atmosphere was damp, cold, and cloudy.

Of antecedent illnesses 24.12 per cent. of the patients were the subjects of tonsillitis, 13.43 per cent. had had scarlet fever, 2.59 per cent. had suffered with anæmia, and in only 1.98 per cent. was chorea either antecedent or concomitant. Considering the close relationship believed to exist between rheumatism and chorea, it is rather remarkable that in such a large series of cases, 655, there should have been only 13 instances of chorea. Of recent antecedents to the rheumatic attack, exposure to cold and wet, particularly when combined with over-fatigue, were the most frequent, occurring in 366 cases. Over-fatigue alone, either sudden or prolonged, was present in 64 cases.

A very full analysis is given, illustrating the influence of treatment on the fever, the pain, and the duration of the attack. There were seventeen different combinations employed, into fourteen of which the salicin compounds entered. The favorable effect of these remedies is shown in shortening the period of fever, in lessening of the pain more quickly, and in reducing the duration of the attack. The largest number of cases were treated with the salicylate of sodium or potassium, and the average duration of the fever was 8.65 days; of the pain, 10.18 days; and of the whole attack, 19.03 days. Of the total number, 655 cases, 536 were treated with salicin compounds, and in only 22 cases did they fail; in this number the salicylates failed in 16 cases.

Of cardiac complications, pericarditis and endocarditis occurred synchronously in 57 cases, and in 54 cases pericarditis occurred alone, making a total of 111 cases, 16.94 per cent., in which the pericardium was involved; of these cases 6 died. In 77 cases heart murmurs developed, which disappeared with recovery, and in 128 the murmur originating in the attack persisted. The mitral systolic murmur was present in 94 of these cases. Of other compli-

cations, pneumonia and pleurisy were the most frequent, 11 cases of the former and 13 of the latter. Hyperpyrexia occurred in 4 instances, 3 of which proved fatal. In 1 case the temperature rose to 110° on the twenty-first day.

Seventy patients suffered relapse; it was impossible to say whether or no the treatment had any influence in this respect, though over 97 per cent. of these cases were taking the salicin compounds.

Death occurred in 22 cases, 3.30 per cent., in the majority of the cases with cardiac complications.

A special value is attached to these reports of the British Association, as the returns are sent in, as a rule, by family practitioners, and we are in this way gradually acquiring statistics of disease in private practice.

THE FOURTH YEAR AT HARVARD.

As endowments increase, the establishment of a compulsory fourth year in medicine is only a matter of time with the great schools of medicine in this country. Meanwhile it is interesting to study the tentative efforts in this direction, and the report of President Elliot, of Harvard University, as analyzed in the *Boston Medical and Surgical Journal* of February 16th, supplies us with some interesting facts.

Since 1881, when the optional fourth year was established with a special degree *cum laude*, the number of students taking this course rose gradually from ten in the first year, to twenty-one in the session of 1886–87. It has been found, however, that not one-half of those who take the fourth year apply for the degree *cum laude*, while of those who do, the percentage of rejections is very high, 35, against 16½ per cent. for the third year degree.

One reason, we suppose, why so few apply for the degree *cum laude* is that they already possess the ordinary doctorate, and from various causes (of which, from the high percentage of rejection, fear of failure may be one) give up the attempt. Our contemporary notes that the fourth year is naturally made up of two sorts of men, the specially good student and the indifferent ones, who need four years' study to obtain the third year degree. In the analysis no attempt has been made to separate the second class. It would be interesting to know how many of the applicants for the fourth year degree had been rejected at the third year examination.

The advantages of a fourth year cannot be judged in this way any more than those of a third year can be estimated in schools in which it is optional. Perhaps it is the best which can be done at present, until the public arouse to the necessity of endowing medical colleges. There is nothing in the report in the slightest degree discouraging to the friends of higher medical education, and could the financial difficulty be met, the Harvard School might solve the problem of the fourth year. Indeed, the prospects to-day, should an obligatory fourth year be added, would be much brighter than they were in 1871–72, when Harvard boldly advanced the curriculum to three sessions of nine months. To timid professors and trustees of medical schools we would advise a course of reading of President Elliot's Reports of 1872–73 to 1886–87 inclusive.

THE PHILADELPHIA HOSPITAL.

THE recently issued Report of the Department of Charities and Correction contains a very full statement of the position and prospects of this institution. The new Board of Directors under Dr. J. W. White has continued the good work started under the recent management, and has made several important changes, notably bringing the Insane Department and the Women's Out-wards under the Executive of the Hospital. The Board seems fully aware of the urgent necessity for making additional provision for the paupers, and urges again the separation of the Almshouse from the Hospital, and its removal to another locality. This would give the room urgently demanded for the accommodation of the convalescents who are now herded in attics in a manner disgraceful to any civilized community. The Board has done its duty in boldly stating it to City Councils, with whom now rests the responsibility for this lamentable state of affairs. As the report states: "In these attics are congregated so many individuals that the two thousand cubic feet of space which, according to the best authorities, is essential to each, is reduced to an average of about three hundred feet. When the beds are prepared for the night there is barely room enough left to enable one to walk from one end of the room to the other. Many of the patients are compelled to sleep two in a bed!" A single nocturnal visit by the Mayor and Councils to the attics of the Philadelphia Hospital should suffice to secure appropriations amply sufficient to remove at once this deep disgrace.

THE Second Congress of the German Society for Gynecology will meet at Halle, May 24–26, 1888. Communications should be addressed, before April,

to Professor Kaltenbach, at Halle. The meeting will be under the leadership of Kaltenbach, Olshausen, and Gusserow.

THE *Albany Medical Annals* for February appears in a new dress, and under the editorial management of a new committee, namely, a committee of editors appointed by the Library and Journal Association, recently inaugurated in Albany. The important subject discussed before the local medical society in December last was the dangers of tonsillotomy, and it is well reported in the February number. Dr. Blair narrated two cases of serious, though not fatal, hemorrhage following the use of the tonsillotome.

The American Anthropologist, edited by a Committee of the Anthropological Society of Washington, has recently appeared for the first time. It is a magazine of nearly a hundred pages, containing articles of value to those interested in anthropology.

THE publication of the *Berliner Klinik*, under the editorship of Hahn and Fürbringer, and also of the *Wiener klinische Wochenschrift*, is announced in Berlin and Vienna, respectively.

THE Cartwright Lectures for 1888 of the Alumni Association of the College of Physicians and Surgeons of New York will be given at the College by Prof. William H. Welch, of Johns Hopkins University, on Thursday evenings, March 29th, April 5th and 12th, at 8.30 P. M. The subject will be the "General Pathology of Fever."

ASSISTANT SURGEON JAMES E. PILCHER, U. S. A., will read a paper on "The Transportation of the Wounded," before the Military Service Institution, at Governor's Island, New York Harbor, next Tuesday, at 2 P.M.

THE Long Island College Hospital, at its commencement last week, conferred the degree of M.D. on thirty-six graduates.

THE Medical College of Ohio conferred the degree of M.D. on seventy graduates. Dr. John S. Billings, U. S. A., a graduate of the class of 1860, delivered the Address to the Alumni.

DR. HENRY F. LYSTER, of New York, has been appointed to the chair of the Practice of Medicine in the Michigan University.

DR. LEWIS A. STIMSON has been appointed one of the Surgeons to the New York Hospital.

DR. HENRY B. SANDS has tendered his resignation as Surgeon to Roosevelt Hospital.

SEAMAN, of Howard University, Washington, has secured information from more than twenty American colleges, regarding the kind of microscopes used and the results of wear. The answers were, in a large majority, in favor of microscopes of American manufacture.

THE Saturday and Sunday Hospital Fund of New York City collected this year $50,400, or about $2600 less than last year. This sum will be distributed among twenty-four hospitals and dispensaries, in proportion to their amount of days of care of free patients. The Mount Sinai and St. Luke's hospitals will get about one-third of the receipts. The cost of distributing this charity is about $2600 yearly.

THE Metropolitan Fund of London this year received £39,000, which has to be divided among 150 hospitals and dispensaries, with the exception of four per cent. of the amount, which is set apart for the purchase of surgical instruments and appliances for crippled persons.

IT is estimated that one-half of all the drugs imported into the United States is consumed in the manufacture of patent medicines.

IN New York State there were sixty-five convictions of illegal medical practitioners during the year 1887.

A MIND-HEALER, named Teed, has been arrested in Chicago, consequent upon the death of a patient by pneumonia, the coroner's jury making declaration that the death was attributable, in part at least, to the lack of proper medical treatment. The accused will be tried for practising medicine without a license, an offence against the laws of the State.

ACCORDING to the recent publication of BONBROW, Medical Director at St. Petersburg, the mortality, in some localities in Russia, is 60 or 80 to 1000; among children it rises to 60 or 80 in 100.

There are, on this basis, 2,800,000 deaths in the Russian Empire yearly, 500,000 of which are due to imperfect sanitation.

REVIEWS.

FEVER NURSING. By J. C. WILSON, A.M., M.D. 12mo. pp. 210. Philadelphia: J. B. Lippincott Co., 1888.

THIS most recent member of the series of Practical Lessons in Nursing is written by one who has already shown his knowledge of fevers in his *Treatise on Continued Fevers*. In accordance with this, the continued fevers receive full attention; while pyrexia in general is considered at some length, septic fever is not mentioned as such, and the mind of the nurse is directed to the fevers treated by the physician. As the fever of sepsis is not described in *Maternity and Childhood*, it evidently awaits the volume on Surgical Nursing.

"Fever Nursing in General," almost the first half of the book, treats fully of the care to be given the patient suffering from any non-septic fever. The experience of the author has been in support of baths and packs of *cold* water; he has apparently not met with the writer's experience, who found in several cases of hyperpyrexia attended by marked nervous prostration that cold applications produced only increased prostration, while hyperpyrexia yielded to sponging with *hot* water, to which a little alcohol had been added. These cases are certainly not common, but we believe sponging with a warm, or even hot fluid, an efficient reducer of temperature, when practised with suitable discrimination.

The nursing of the continued fevers is admirably described. Symptomatology is treated so distinctly that she must be a dull nurse who does not obtain a clinical picture of these diseases of great value.

In treating of the contagion of diphtheria Dr. Wilson speaks with such refreshing force regarding the conduct of the apparently healthy members of the household that we wish his words could be in the possession of every household in the country. He says, "The well, or apparently well members of the household must not attend church, places of amusement, or other public places of assemblage, nor pay or receive visits. The children must not be allowed to go to school." If such isolation of infected households were commonly practised, epidemics of diphtheria would be less frequent. The author's "Fever Charts," illustrating typical cases of the most common fevers, are appended.

In Dr. Wilson's *Fever Nursing* the best work done in the scientific care of the sick receives a full and attractive exposition, and we cordially commend the book, not only to nurses but to physicians, to whom it will be a useful memorandum of points of practical importance.

SOCIETY PROCEEDINGS.

THE PHILADELPHIA NEUROLOGICAL SOCIETY.

Stated Meeting, January 23, 1888.

THE VICE-PRESIDENT, CHARLES K. MILLS, M.D., IN THE CHAIR.

DR. F. X. DERCUM reported

A CASE OF CHOLESTEATOMA, WITH REMARKS ON THE ORIGIN OF THE TUMOR.

P. J., aged forty-three, unmarried, an Englishman by birth, was admitted to the nervous wards at the Philadelphia Hospital on August 3, 1887. He was dull and stupid. He answered questions slowly and imperfectly, and gave a very poor and disconnected account of himself. He said that about nine years ago he had had a wen removed from his scalp at the German Hospital. Otherwise he had been in good health.

Careful examination of the scalp failed to reveal any evidence of a former operation, and an exhaustive search among the records of the German Hospital failed to reveal any history of it.

His present trouble had commenced about three months ago, with trembling of the hands, and more or less mental confusion. He had what he called a "rigmarole of things" in his head. On admission, he complained of constant and persistent headache, which he invariably referred to the base and the back of the skull. He was, in addition, quite weak, but in no sense paretic. Sensation seemed to be normal. The knee-jerks were markedly increased. An examination of the eyes revealed double optic neuritis. The pupils at this time showed no decided inequality.

Brain-tumor was deemed probable, but, owing to the absence of special symptoms, it was not possible to locate the lesion. There had at no time been any localized palsy, any convulsion, or, in fact, any symptom referable to this or that part of the cortex.

The patient was under constant observation up to the 31st of August, when he died. During this time his mental condition gradually grew worse. He became more and more stupid, and at times wandered. On the day of his death he commenced vomiting, the vomit consisting merely of mucus and bile. He rapidly became less and less conscious, and finally lay perfectly quiet, with the exception of occasional movements of the head and arms. These movements were, however, not in any way convulsive. When the hands or arms were pricked with the æsthesiometer he would draw them away, but further than this he could not be aroused. His right pupil was now seen to be widely dilated, while the left responded but sluggishly to light. His pulse was 64, soft, and compressible, and his respiration was 28. His general appearance was that of a man in a sound sleep, but whose face was flushed. Toward evening his depression deepened, and at 7.20 P.M. he died.

At the autopsy it was found necessary to remove the brain entire with the calvarium, all of the tissues, the brain, dura, and bone being very much adherent to one another. An examination revealed this adhesion to exist in an area some two or three inches in diameter in the right frontal region. In forcibly separating the dura from the bone a rough prominence was discovered on the latter, occupying the middle of this area. The prominence measured about two-thirds of an inch across, and about one-sixteenth to one-eighth of an inch in height. The outer surface of the calvarium revealed no change other than a slight deepening of color—a faint purple tinge—at the site corresponding to the prominence on the inner side. The dura mater, on the other hand, exhibited a depression, a shallow pit, the counterpart of the bony prominence. Beneath this pit, and for the radius of an inch or more around, the tissue felt much firmer than normal, and a rounded mass was readily outlined by the finger. On attempting to raise the dura it was found to be intimately united with the underlying tissue, not only over the tumor, but also over the entire

vertex. The pia, in turn, was everywhere intimately adherent to the cortex. Its meshes were quite œdematous, as was also the brain substance. Some of the convolutions, especially at the base, were much swollen. The walls of the ventricles were exceedingly pale. The right lateral ventricle was much compressed. The choroid plexuses were cystic. The vessels at the base were apparently healthy. The veins of the pia were quite full.

The tumor was found to be situated between the first and second frontal convolutions on the one hand, and the anterior central on the other. It had developed downward, and gradually separated these convolutions. The pia was intimately adherent to the edge of the growth, and did not separate it from the brain substance. A number of vessels could be seen passing from the former directly into the latter. When incised the tumor had a whitish or pinkish-white color. It was quite friable, and a pinkish-white juice could be expressed from it.

The microscopical examination reveals its general structure to be that of a sarcoma, while scattered through it in varied profusion we find typical, pearly bodies.

Dr. Dercum had not been able to find in the literature of endotheliomata or cholesteatomata an exactly similar case. The formation of the pearly bodies in the midst of a sarcomatous tissue is exceedingly interesting, especially in the present instance, as the locality of the tumor gives abundant opportunity for the origin of the endothelioid formations. They closely resemble the pearly bodies of the epitheliomata, so much so that some writers still believe them to be of epiblastic origin. Their occurrence, as in the present instance, in the depth of a sarcomatous tissue, is certainly another argument against this view.

On examining them closely their concentric, onion-like structure is readily seen. Their centre appears to be made up of a granular and nuclear material which is probably cell-detritus. Toward the periphery individual cells, more or less preserved, are still to be distinguished. They are sharply differentiated from the surrounding tissue; though the vacant space seen about them is probably the result of the hardening process.

Clinically this tumor is interesting from the absence of symptoms enabling us to localize it. Dr. Dercum's impression was that it was either far forward in the frontal region or back somewhere in the occipito-temporal region, not interfering with the cuneus. He favored the latter supposition on account of the basal and occipital pain. He regretted that the scalp was not shaved in order that evidences of traumatism could have been better sought for.

The man had an exostosis on the inner table of the calvarium involving the upper portion of the frontal bone somewhat in advance of its junction with the upper portion of the right parietal. There had been inflammation of the dura about the exostosis, with adhesion to the pia. From this focus of irritation the tumor appears to have developed.

DR. WILLIAM OSLER said that a short time ago he reported a case in which the pearly bodies were even more distinct than in the specimen shown and in which the origin from the endothelium of the floor of the third ventricle and infundibulum was evident. In this tumor, as in Dr. Dercum's, there were many spindle-cell elements. Cholesteatomata are more common at the base than on the cortex.

DR. CHARLES K. MILLS said that Dr. Dercum's case is of interest as bearing upon the localization of growths in the second frontal convolution. In the case on which Dr. Keen operated, the tumor was in much the same position, perhaps a little lower. In a case which he reported to the Pathological Society the tumor was situated in much the same locality. In all these cases there were eye symptoms. In his own case he noted a certain fixity of the eyes with dilatation of one pupil. These cases to a certain extent carried out the idea of Ferrier and others that the oculo-motor centres are located in the second frontal convolution.

DR. DERCUM said that his patient had no specific symptoms of the locality of the tumor. He did not place the same interpretation upon the eye symptoms as did Dr. Mills. This tumor did not press directly upon the cortex, nor did it irritate the cortex. The man was killed by œdema of the brain and not directly by the tumor itself. The mass grew downward between the first and second frontal convolutions and the ascending frontal, and it separated these so gradually that no irritation was produced. The eye symptoms were of late occurrence. The tumor became so large that the venous return was interfered with and the brain became œdematous and was so found at the post-mortem. As a result we should expect oculo-motor symptoms from transmitted pressure. The size of the tumor was probably also increased by œdema. The right half of the brain was not as œdematous as the left, as it had not so much room to swell. The left base was much swollen.

DR. OSLER presented

A CASE OF LOCAL SYNCOPE AND ASPHYXIA OF THE FINGERS.

The patient came to the Infirmary for Nervous Diseases a few days ago with her hands in the following condition. The second, third, and little fingers of the left hand were like marble, the line of demarcation being at the second joint. The thumb and index fingers with those of the right hand were livid, particularly the terminal phalanges. The condition is aggravated by exposure to cold. The local syncope is so marked that he thought the members would be interested in it. The condition is variable, the syncope in a short time is followed by asphyxia. This is the mildest grade of Reynaud's disease, which in extreme cases may result in gangrene of the affected finger-tips.

He thought that the local syncope is caused by vasomotor spasm. Following this there is relaxation of the spasm with extreme engorgement. Such a condition produced by the local action of cold is closely related to chilblains. Many of these cases have had chilblains. Last winter he had at the University Hospital a child, aged thirteen or fourteen, who had presented for many years this condition of local asphyxia of the terminal phalanges of both hands. It did not vary in any degree while under observation.

DR. EDWARD N. BRUSH reported

A CASE OF PORENCEPHALUS, WITH SPECIMEN.

J. K., aged fifty-seven, a native of Pennsylvania, married, by occupation a laborer, was admitted to the Pennsylvania Hospital for the Insane, June 16, 1885.

The following is an abstract of the history of the case: At birth the patient was observed to be unsymmetrically developed. The left side was smaller than the

right, the limbs were shorter and their circumference less. No history of infantile paralysis could be obtained, and the patient is said to have walked at about the usual age, though with a limp which continued through life, owing to the shortness of the left leg.

At the age of nine, while playing in a barn he fell to the floor from the hay-loft a distance of some sixteen feet, striking the back of his head. For some weeks following this fall he complained of headache, but his general health did not seem to be affected.

As a young man he was intemperate in the use of liquor, but he had been for some years prior to admission of temperate habits.

A maternal uncle had been insane and several relatives are said to have died of "dropsy of the heart."

About nine years before admission to the hospital he had sunstroke, and was from that time frequently troubled with severe headache, especially during the hot weather.

He had always been a man of violent temper and rough in conversation, and, following the sunstroke, is said to have become worse in these respects. By some he was regarded as not possessing a thoroughly balanced mind. His friends had not noticed any active mental disturbance earlier than a week prior to his admission to the hospital, when he suddenly became noisy and violent, and gave expression to extravagant delusions. His condition, however, on admission pointed to a much longer period of mental disturbance, as he was in advanced general paresis. Upon inquiry, it was found that as early as December he had been talking in a boastful manner of his power and possessions, and particularly of the speed of his horse. It was also found that he had not, on account of his imaginary wealth, made any charge for his services as a carter since spring.

On admission he walked with a slight halt, the left leg was shorter than the right—as was also the left arm; there was some asymmetry of the skull, particularly in the occipito-parietal portions—the left arm was stiff from an old fracture. In addition to the limp, his gait was somewhat ataxic. He swayed to a marked degree when standing with his eyes shut. The tendon (patella) reflexes were absent. The pupils were unequal, the left being the smaller. They responded to light very slowly, and not at all to accommodative changes. No other examination of the eyes was made at the time, and the patient was never in a condition subsequently to permit any. There was commencing cataract in each eye.

The patient gave expression to very extravagant delusions of wealth, and was lavish in his gifts of checks to all about him.

There was marked tremor of the lips and tongue, and of the hands and fingers as well. He pronounced his words in a hesitating, drawling fashion, and frequently stumbled over words of many syllables.

The case progressed without incident for some weeks. He was frequently noisy, shouting and singing. His gait grew more disturbed—he manifested a tendency to fall forward, and, when once started, would almost run at times to keep from falling. At the end of a month his pupils had become almost pin-points. His speech was more hesitating and his delusions more extravagant. He said that he had a horse which could trot a mile in a minute and a quarter less than no time—and another that could go around the earth in two minutes and a quarter. He had hallucinations of sight and hearing.

For a time the patient gained in flesh, but soon lost and in the fall was quite emaciated, though eating heartily. The tendency to fall forward continued, and it became necessary to support him in walking. When he could be induced to stand still, he was able to support himself fairly well.

To omit unnecessary detail, it will suffice to say that the patient became noisy, untidy, and very destructive of clothing—at the same time failing mentally and physically. In November, five months after admission, he was quite demented, and his speech was hardly intelligible.

On December 2, 1885, the ward notes state that his morning pulse was 48, temperature 97°; P.M., pulse 56, temperature $97\frac{8}{10}°$, in bed quite feeble. On the day previous he had been up and had taken some exercise in the ward with the assistance of an attendant.

December 3d: A.M., pulse 60, temperature $97\frac{8}{10}°$; P.M., pulse 64, temperature 98°. Heart sounds muffled. Respiration 14.

December 4th: A.M., respiration blowing, 10 to 12; pulse 48, face pale, body generally blanched; is comatose. At 2.30 P.M. the respirations were but eight per minute and wholly diaphragmatic; pulse 54. Died at 8.15 P.M.

Autopsy sixteen hours after death. Examination made of brain only. On removing the calvaria the dura in the right occipito-parietal region protruded, bulged out as if from internal pressure. Dissecting the dura carefully from the brain, to which it was strongly adherent over the vertex, this protrusion was seen to be due to a large accumulation of serum beneath the arachnoid. In removing the brain, the arachnoid was accidentally ruptured and the fluid escaped. About six fluid-ounces were collected and found to differ in no respect from the ordinary cerebro-spinal fluid.

Enlarging the opening in the arachnoid the cavity which is shown in the specimen was found. It will be observed that it communicates with the lateral ventricle, the posterior cornu of which is enlarged, and that it is lined, except where it communicates with the ventricle, with the pia mater. This cavity, it will be observed, occupies the position of the parietal lobe and encroaches also upon the occipital and temporal.

The ascending parietal convolution is, in its upper portion, almost wholly absent, a small amount of cortical substance held in the meshes of the membranes alone remaining.

The superior parietal lobule, or a portion of it rather, forms the roof of the cavity. Nothing of this lobule remains but a mere shell of cortical substance and membrane which overhangs the cavity.

The posterior portion of the superior temporal convolution is absent and nothing but a thin membrane exists between the cavity and the fissure of Sylvius, which is turned abruptly upward. The inferior occipital convolution appears intact, but of the superior and middle only a small portion remains.

On the inner surface of the hemisphere the cuneus is simply represented by a shell of brain substance, and of the quadrate lobule nothing remains but a thin stratum of brain substance at its anterior portion.

If the right hemisphere is compared with the left, the portion not encroached upon by the cavity is markedly smaller, and the convolutions are not as well developed.

The difference in weight between the two hemispheres was, when removed and thoroughly freed from fluid, nine and one-eighth ounces.

The cerebellum has developed unsymmetrically, the right half extending upward and forward considerably in advance of its fellow, owing to the absence of resistance from the right cerebral lobes. It is to be regretted that the maniacal state present at the admission of the patient, and the subsequent dementia into which he passed, prevented a more careful clinical study of the case, and especially that no opportunity was afforded for recording the eye symptoms.

DR. E. T. BRUEN also presented a specimen from a

CASE OF PORENCEPHALUS.

The specimen of the brain which was presented was removed from the body of Mary C., æt. thirty-two, who died in the Philadelphia Hospital September 21, 1887. On removing the dura mater four cysts were found situated upon the cortical portion of the brain near the occipital lobes of both sides.

There were two cysts on each side of the median fissure, those on the right side were irregular in shape, and somewhat larger in size than a walnut. They were situated mostly over the occipital lobe, but the outer one particularly extended over a portion of the parietal lobe. In the left cortex the cysts were much larger, the one close to the longitudinal fissure extended forward three inches, and was an inch in diameter. The smaller cyst was two inches long by three-quarters of an inch in diameter. The inner and larger cyst extended over the occipital and parietal lobes, parallel with the longitudinal fissure. The outer and smaller cyst occupied a position over the occipital lobe, but extended somewhat over the parietal lobe. The walls of the cysts were composed of thin lamina of membrane, and contained a clear fluid. Owing to the pressure occasioned by the cysts, extensive atrophy of the convolutions of both occipital lobes had occurred, but upon the left side the convolutions of the superior portion of the parietal lobe had also been decidedly involved in the atrophy consequent upon the pressure. This process was so marked that the surface of the left cerebrum was depressed half an inch below that of the right, and the entire left hemisphere occupied by the cysts appeared distinctly smaller. The close proximity of the cysts upon the left side to the fissure of Rolando, shows that the motor tract on this side of the brain must have been subjected to irritation by pressure during the development of the cysts.

DR. OSLER had seen several specimens of cysts in the brains of adults which were evidently, from the history, due to embolism or thrombosis, with secondary atrophy. Such defects may be large, and form examples of true porencephalus; but the condition which Heschel first accurately described, and to which Kundrat has devoted a large monograph, more often originates in fœtal life either in an error of development or as the result of disease. Encephalitis, obliteration of arteries, traumatism at birth, any condition, in fact, which in the fœtus or child leads to destruction of brain tissue, may produce porencephalus. Kundrat states that in the congenital cases the arrangement of the convolutions about the defect is radial. Bilateral lesion, as in Dr. Bruen's specimen, is rare, but the convex surface in the neighborhood of the motor zone is the most common seat. Intellectual defects and spastic paralysis are almost invariable associations when the condition is congenital or due to disease during infancy.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, February 17, 1888.

THE PRESIDENT, JAMES PERRIGO, M.D., IN THE CHAIR.

DR. WILLIAM GARDNER reported a

SUCCESSFUL LAPAROTOMY FOR PELVIC HÆMATOCELE,

due to rupture of the Fallopian tube in a case of extra-uterine fœtation. The patient, aged twenty-nine, was married in July last, and had an early miscarriage in October for which she was attended by Dr. Arthur Browne; after this she menstruated twice, the last time on the 2d of December. Toward the end of the month she had morning sickness for a few days. During the early part of January a bloody vaginal discharge appeared lasting nearly a fortnight. About the middle of January she was seized with violent pelvic and abdominal pains with most alarming collapse, during which for many hours she was almost pulseless. From this, in a few days she partially recovered, but soon there were recurrences of pain, faintness, and symptoms of peritonitis. Her physicians, Drs. Browne and George Ross, recognizing the nature of the case, requested Dr. Gardner's opinion, and after examination he fully concurred in their diagnosis of ruptured extrauterine fœtation. The next day the symptoms continuing alarming it was decided to open the abdomen. The right Fallopian tube was found expanded in a friable mass in which Dr. Johnston afterward found the fœtus embedded in clots. In attempting to ligature this Dr. Gardner tore it away. The pelvis was full of clots. These were scooped out and the cavity washed out with a forcible steam of water from Tait's large, blunt trocar carried to the dependent parts. A drainage tube was then inserted and left for eight days. For the first nine days the course of the case was perfectly favorable. Then evidences of cystitis appeared, and have continued to be rather severe. There seems no reason to doubt that recovery will ultimately be complete and permanent.

Dr. Gardner remarked that such a case as this illustrates well the triumphs of modern abdominal surgery.

Regarding this particular operation, we owe all that is worth knowing to Lawson Tait, whose remarkable results in a long series of such cases are now well known. The diagnosis is not always easy, but given sufficiently alarming symptoms the abdomen should be opened and the condition found dealt with as may be necessary. It is a great satisfaction to know that in the hands of competent surgeons the operation itself cannot be said to be a source of danger.

DR. GEORGE ROSS said he had seen this case in the early stage; when he was called to her she was almost pulseless and extremely pallid, but he did not regard her condition as by any means hopeless. He congratulated Dr. Gardner on the very successful result in this case, and said that, as far as he knew, it was the first case of the kind in Canada which had been treated by abdominal section.

DR. SHEPHERD asked if it was not a fact that gynecologists look upon all cases of intra-peritoneal pelvic hæmatocele as due to a ruptured tubal pregnancy.

DR. GARDNER, in reply, stated that such is the opinion of Mr. Lawson Tait, but he considered it might be produced by other conditions, as, for instance, rupture of the ovarian veins, etc.

(The specimen, showing the fœtus embedded in the mass removed, was exhibited; also chorionic villi under the microscope.)

DR. GEORGE ROSS exhibited specimens obtained from a case of

CARCINOMA OF THE STOMACH AND LIVER.

The patient, aged fifty-five, had been under observation for four months and had never had any gastric symptoms, but suffered from profuse diarrhœa and had a haggard appearance. Examination discovered a hard mass in the left hypochondrium which moved with the diaphragm, the liver was not enlarged. There was no pain after eating and no vomiting. The diarrhœa was controlled and patient ate and drank well, but had continuous pain in the epigastrium. The hard nodule in the left hypochondrium rapidly increased in size and it looked as if the left lobe of the liver was the seat of the tumor, but its origin was always doubtful. Later the patient developed albuminuria and amyloid casts were found in the urine.

Patient gradually sank, and at the autopsy performed by Dr. Johnston there was found a large fungating cancerous ulcer occupying an area nearly four inches in diameter on the anterior surface and lesser curvature of the stomach; neither the pyloric nor œsophageal openings were obstructed. The base of the ulcer was deeply fissured and had extended into the inferior surface of the left lobe of the liver. There were no secondary deposits. Nature of growth chiefly scirrhus. The glands in the portal fissure of the liver, stomach, and intestines were in a state of amyloid degeneration. Kidneys and spleen amyloid but not enlarged. Dr. Ross said he had brought the case before the Society, not because it was a very rare one, but because it was important to recognize the fact that we might have most extensive disease of the stomach without having any symptoms referable to that organ. The occurrence of amyloid disease in these cases of malignant disease was rare so far as his experience went.

DR. MCCONNEL asked if it was not a fact that in carcinoma of the stomach there was always complete absence of hydrochloric acid.

DR. STEWART said that this idea was now refuted, as hydrochloric acid is absent from the stomach in many other diseases, and had been found where cancer was present in the stomach.

CALCULOUS NEPHRITIS.

DR. JOHNSTON presented for Dr. Bauer, of Waddington, N. Y., (1) a kidney affected with calculous disease. The entire renal substance was destroyed. The kidney consisted of a series of suppurating sacs, each containing a uric acid calculus coated over with phosphates. The other kidney was greatly shrunken and disintegrated apparently from pyelitis, but contained no calculi. The patient had had pyrexia for years and died of uræmic coma.

(2) A specimen of secondary

CARCINOMA OF THE PERITONEUM.

The growths, whose microscopical characters were those of encephaloid cancer, were all situated beneath the peritoneal coat of the intestines, soft and vascular and varying in size from a pea to an egg. The seat of the primary growth was uncertain.

DR. JAMES STEWART read a paper on the

PHARMACOLOGY OF ARSENIC.

He first dwelt on the mode in which arsenic kills in poisonous doses. Three cases of fatal arsenical poisoning were related in none of which were there any marked changes found in the gastro-intestinal mucus membrane after death. The first case was that of a girl aged nineteen, who was admitted into the Montreal General Hospital in September, 1887, six hours after swallowing two ounces of "Rough on Rats." There were constant retching, vomiting, and intense thirst.

The pulse was very rapid and weak; vomiting and diarrhœa, which latter soon set in, continued until her death four days after taking the poison. At the section performed by Dr. Johnston, twenty-four hours after death, there was found in the anterior surface of the stomach near the pylorus an elongated ulcer half an inch by one quarter, with firm, rounded, and undermined edges. The base, which consisted of the muscularis, was smooth. There was no hyperæmia in the neighborhood or elsewhere in the stomach. Beyond slatey pigmentation of the solitary follicles nothing abnormal was found in the intestines. In the case reported it was mentioned that everything pointed to the ulcer being "a chronic gastric ulcer," and that there was no evidence of any inflammatory action being set up by the arsenic.

The second case was that of a prostitute, aged thirty-five. She swallowed an unknown quantity of "Rough on Rats" on the 29th of September last. Eighteen hours afterward she was admitted into the Montreal General Hospital in a state of great depression. Her pulse was 150, weak, and thready, there was very profuse serous diarrhœa with occasional vomiting. She died thirty-three hours after taking the poison. There was an entire absence of any inflammatory symptoms in the stomach and intestines. Dr. Johnston, who performed the autopsy, found a large ecchymosis beneath the endocardium of the right ventricle.

The third case was one of arsenical poisoning from the application of a paste to a fungating epithelioma of the dorsum of the foot. The patient was a woman aged sixty. The prominent symptoms were purging and vomiting. Dr. Johnston, who performed the autopsy, could find no evidence of any inflammatory action in the stomach or intestine. Arsenic was found in all the internal organs, especially the liver. In this case the drug was absorbed into the blood from the wound and eliminated by the gastric and intestinal mucous membrane.

In all three cases death was brought about not by the violence of the inflammatory action but by the lowered blood-pressure. The reader of the paper went on to say that this lowered blood-pressure is generally attributed to paralysis of the splanchnics and that probably the best means to control it is to inject large quantities of fluid into the cellular tissue after Cantani's method (hypodermoclysis) of treating Asiatic cholera. Injection of several ounces of a weak saline solution every hour or two have proved of great benefit in the latter disease. This, the reader of the paper contended, would be a more judicious treatment of arsenic poisoning than that usually resorted to. After referring to the most probable mode

of action of arsenic in certain diseases of the skin, Dr. Stewart gave an account of a case of acute erythema multiforme following the use of a few doses of Fowler's solution. The intensely reddened skin was covered with innumerable very small papules; there was œdematous infiltration of the subcutaneous tissue of both arms. In another case under treatment with arsenic for angina pectoris, on several occasions an intense temporary erythema of the face had been noticed, and in the same case wart-like excrescences on the backs and palms of the hands which disappeared and reappeared as the arsenic had been stopped or retaken. In both forms of rash there was desquamation, the difference being that in one case it was superficial, in the other deep.

An instance was also recorded of one of the rarest of the untoward effects that follow the administration of arsenic, viz., brown staining of the skin. The case was one of epilepsy in a young man. Bromide of potassium caused such a disfiguring acne that each dose was combined with five minims of Fowler's solution. A few weeks after taking the mixture patient was seen and it was found that the entire body was stained, exposed parts especially so. The staining was not unlike that seen in Addison's disease. It disappeared entirely a few weeks after stopping the arsenic. So far as is known, arsenical staining is not permanent, being different in this respect from silver staining.

DR. BELL stated that whilst house-surgeon in the General Hospital he had seen not a few cases of poisoning from Paris green, and, as far as he could recollect, there were inflammatory lesions in all cases. He was surprised to hear from Dr. Stewart that in none of his cases these conditions existed.

DR. REED said that he had seen one case of arsenical poisoning where there was no gastro-enteritis.

DR. SHEPHERD said that if Dr. Stewart's statement was accepted, viz., "that arsenic did not kill by the violence of the inflammatory action excited, but by lowered blood-pressure," then we must altogether change our method of treatment in these cases. The point was a new one to him and he thought the general impression existed that death is in all cases due to inflammatory action. He still had confidence in the use of arsenic in certain diseases of the skin, namely, psoriasis and bullous eruptions, and had, in these cases, used it extensively, but had never seen the erythema or staining produced, but this was probably due to the fact that ointments were used at the same time and in psoriasis especially it would be impossible to detect erythema or staining where chrysophanic ointment was employed.

NEWS ITEMS.

The Medical Corps of the Navy. — Surgeon-General Gunnell and other officers of the medical corps of the navy stationed at Washington are confident that legislation will be secured this year looking to the increasing of the inducements to enter their corps. The Surgeon-General has been before the House Naval Committee, upon the invitation of its Chairman, in the interest of a bill prepared by himself, which medical officers think amply provides for the needs of their corps. The chief aim of the Surgeon-General is to make the rank of assistant surgeon in the navy as attractive as that grade in the army to young physicians. In his statement before the committee he remarked that the corps had not been filled since the war. The number of resignations since that time exceeded one-half the number of medical officers allowed by law. Vacancies are difficult to fill, he stated; the applicants are few, and therefore it is seldom that a young physician is found who is qualified to serve as a medical officer of the navy. A vacancy in the army, the Surgeon-General said, is sought after by hundreds, and no trouble whatever is experienced in procuring physicians thoroughly well qualified to practise their profession.

The success of the army in recruiting its medical corps with desirable men, the Surgeon-General informed the committee, is due to the advantages offered young men who enter the service. They receive a fair compensation and are provided with quarters, and this, together with other allowances, makes their positions well worth seeking. On the other hand, the Surgeon-General stated, the young assistant surgeon in the navy is poorly paid. On board ship he has a hammock in the steerage, where there is no place to study or even to keep his books. It was remarked that the ensigns and assistant engineers are also quartered in the steerage. To this the Surgeon-General replied that those young officers had grown up together and, being jolly young fellows, got along very well. The physician, green so far as affairs pertaining to ship life are concerned, is made the butt for all their gibes and jokes. This disgusts the new man and he soon determines to leave the service which he finds possesses no charms for him, and, in fact, no opportunity to improve in his profession. Besides, he sees staring him in the face an examination of extreme difficulty at the close of the three years without any facilities to prepare himself for it. Five of these young men have left the navy since 1879 and entered the army. The Surgeon-General said that he thought an addition of $200 per annum to the pay of assistant surgeons, with quarters in the wardroom, would enable him to secure men who would be creditable to the corps. He concluded his remarks on the bill by stating that in his opinion the improvement of the medical corps of the navy is a matter that every officer in the navy should be interested in. It is certainly a benefit to the officers and crew of a vessel to have on board a physician in whose skill they all have confidence.

The Epidemic of Typhoid Fever in the Michigan State Prison. — The epidemic of typhoid fever at Jackson, Michigan, in the State Prison, has about exhausted itself, now that the gates through which the germs were introduced into the prison have been closed. A personal inspection of the prison last week satisfied the writer that Warden Hatch has done all that is necessary to do in order to correct the insanitary features connected with the house drainage. The soil pipe from the hospital and its house drain have been relaid so that they can be readily inspected its whole length, and it has been disconnected from the sewer into which the sewage from the west wing enters. An examination of the old conditions shows that the discharges from the hospital water closets had a sheer fall of from 70 to 80 feet, and then entered the sewer with a great velocity, probably siphoning the two traps under a slop sink in the West ward, where most of the fever developed. Under the new

arrangement it will not be likely that the traps will be siphoned. At any rate, the fever has ceased to develop since the warden has carried out his improvements. In the hospital are several convalescents. There were in all about sixty cases, with but four deaths. Dr. Victor G. Vaughan, Director of the Laboratory of Hygiene at the University of Michigan, thus describes how he detected the germs of typhoid fever in the air taken from the sewer: "A quart bottle was filled with boiling water. This destroyed any germs that might be present in the bottle. After cooling, the bottle was held in the sewer with one hand, the space about the arm being closed in order to prevent the gas from coming up into the face. With the thumb and finger the cork was removed from the bottle. Of course the water passed out and the sewer-gas passed in. The stopper was replaced while the bottle was still in the sewer. Some days later a half-ounce of sterilized water was poured into the bottle, shaken, and cultures made with this showed the presence of the typhoid bacillus."—*Sanitary News*, March 3, 1888.

The Cancer Bacillus.—The discovery of the cancer bacillus threatens to have as many claimants as the authorship of Junius's Letters. In addition to Dr. Scheuerlen, who was the first before the public, two Italians announce themselves as having independently made the discovery—Dr. Barnabei, Professor of Clinical Medicine at Siena, and Dr. Sanarelli, a graduate and teacher of the same school. But, it seems, a compatriot of Scheuerlen is also in the field to claim priority in the discovery—Dr. Schill. France, too, not to be outdone, has her special claimant in Dr. Perin. And, finally, Brazil, in Dr. Domingos Freire, seeks to vindicate the honor of the discovery to the New World.—*Lancet.*

A Ptomaine Resembling Strychnine.—AMTHOR and others have repeatedly found in examining animal remains a ptomaine having many reactions strikingly similar to those of strychnine. It gives precipitates with potassium ferricyanide, chromate, and sulphocyanate, and with picric acid, differing from the strychnine precipitates in that they are amorphous. It gives color reactions similar to those so characteristic of strychnine. Points of difference are its comparative want of bitterness, its very sparing solubility in ether, in washing out from an alkaline solution (its proper solvent being amylic alcohol) and especially absence of tetanizing action on frogs.—*Pharmaceutical Era*, March, 1888.

Dr. Bramann.—The *Lancet* gives the following account of Dr. Bramann, who operated upon the Crown Prince:

Dr. Fritz Bramann has been gazetted in Berlin as the recipient of the Commander's Cross of the Hohenzollern House Order, bestowed by the Emperor as a reward for his skilful performance of the operation of tracheotomy on the Crown Prince. Dr. Bramann is the eldest son of a still surviving landed proprietor near Darkemen in East Prussia. He studied medicine at Königsberg, and acted as assistant to Dr. Schildner, Professor of Clinical Surgery in that school. In this capacity he earned a high reputation for skill as an operator, and was specially deputed from Berlin, where his merits have long been known, to perform tracheotomy, if occasion arose, on his Imperial Highness. Dr. Bramann, who is only in his thirty-fifth year, has had to struggle with many severe illnesses, which wellnigh wrecked his professional career. He has suffered successively from typhus, from enteric fever, and from diphtheria, and on each occasion his life was despaired of by the skilled physicians who were consulted.

Pasteur's Extermination of Rabbits.—The *Lancet* announces that M. Pasteur having entered the lists as a competitor for the reward of £25,000 offered by the Government of New South Wales for exterminating the superabundant rabbits, is sending by the Orient Line mail steamer "Cuzco," three delegates with a supply of "microbes du choléra des poules," with which he hopes to win the prize.

The Dangers of Laundry Work.—Washerwomen are exposed to some undoubted risks in the manipulation of soiled and often infected clothes, etc., and they are generally the first to suffer when an epidemic of any contagious disease breaks out. Even with hands free from abrasions, or other solution of continuity, such diseases may be contracted, but if, as is more often the case, the skin be chapped and raw, blood poisoning, or severe local inflammation, such as whitlow, is extremely likely to follow. The case was reported last week of a woman who died from gangrene, resulting from a finger poisoned in washing the clothes of a person who had succumbed to an attack of phlegmonous erysipelas. The chlorinated solutions used at laundries for bleaching purposes are excellent disinfectants, but they are, as a rule, only used after the washing proper has been done. In this case, a civil action for damages will probably follow, on the part of the children of the deceased woman.—*Medical Press*, February 22, 1888.

Saccharin an Acid.—Saccharin has the properties of an acid. Its compound with cocaine has been prepared, and proves to be a salt freely soluble in water, and having an agreeable, sweet, fruity taste. The compound contains 62.345 + per cent. of cocaine. Combinations with other alkaloids will be produced and their properties studied.—*Pharmaceutical Era*, March, 1888.

The Progress of Cremation.—There are twenty-two crematories in Europe, of which ten have been built within the past year. There have been 600 incinerations in Germany and 800 in Italy. There are seven crematories in the United States, and six in process of construction.

An Important Incompatibility.—The death of a child was caused not long since by ignorance on the part of a physician of the fact that chlorate of potassium and iodide of iron are incompatible. The reaction between these compounds precipitates the iron in the form of sesquioxide, setting free the whole of the iodine, according to the equation $2FeI_2 + KClO_3 = Fe_2O_3 + KCl + 2I_2$. This incompatibility has been pointed out repeatedly, but is not always borne in mind by the physician or the dispenser.—*Pharmaceutical Era*, March, 1888.

Automatic Pill Vending.—An American manufacturer of sugar-coated pills added to the attractions of an exhibit of his product in London an ingenious piece of mechanism, which might have been intended to represent the pharmacist of the future. It was in the form of a cabinet

provided with a series of knobs or buttons, each inscribed with the name of some malady for which a remedy might be asked. The customer puts a coin into a slit and presses the button calling for the remedy he requires, when immediately a drawer flies out containing the article sought. This automatic dispenser, of course, makes no mistakes. If the customer accidentally presses the wrong button, he alone is responsible for the error. Is this really what we are coming to?—*Pharmaceutical Era*, March, 1888.

The Dangers of Medical Missionaries.—Missionaries have usually found that an acquaintance with medicine, and the ability to perform what to natives are most marvellous cures by means of operations, are certain passports in countries where a mere teacher of religion would be in constant danger of being murdered. The lives of Livingstone and many other medical missionaries are examples of this. Even in China, where superstition and hatred of foreigners are at a very high level, medical missionaries have managed to win their way to the confidence of the people in a most remarkable manner. At times, however, there are outburts of fanaticism, promoted probably by the native medicine men, who, in all countries are the most virulent opponents of the introduction of European science. One of these has lately occurred in Foochow. Its immediate cause was the prompt action of one of the medical staff in a case of hemorrhage, in disregard of the native superstition, according to which he ought to have delayed until the patient's friends had finished consulting the gods in the joss-house. As it was, he was unfortunately too late to save the man's life. The enraged Chinamen dogged him from place to place, determined to boil him to death in oil, and had it not been for the courage of some of the converts this would probably have been his fate. As there is a great tendency to wait until the patient is almost moribund before applying for the help of the foreign doctors, it is not surprising that operations frequently fail. It is terrible to think that an unsuccessful operation may result in the murder of the operator. There are, however, signs that China is moving, and the time is probably not very far distant when those who have devoted their lives to the elevation, physical, mental, and spiritual, of the superstitious Chinese will see some fruit of their self-denying labors.—*Lancet*, February 25, 1888.

Duelling Among Medical Students.—A correspondent of the *British Medical Journal* of February 25, 1888, writes from Switzerland that the absurd and barbarous custom of duelling, which still survives with astonishing pertinacity amongst German students from one generation to another, has recently given rise to two sad accidents in Berne. One of the combatants had the whole of his nose slashed off, while another, who was on the point of taking his M.D. degree, had his right arm so entirely disabled by a foil that his medical career has come to a premature end. These accidents, however, did not prevent another series of duels, which took place on February 4th (that is—a couple of days after the above mentioned accidents), in Berne, between several members of the Corporation Helvetia, and as many students from the University of Zurich, who had come to Berne expressly for the purpose. We learn from the *Berner Stadtblatt* of February 7, 1888, that this time no noses were lost and no limbs were maimed, though a good many flesh wounds were inflicted. The police, acting on "information they had received," succeeded in surprising one set of combatants in the morning, and in confiscating the weapons and other fighting gear. This did not, however, cool the ardor of these noble "sportsmen," who managed to bring off some exciting "events" at another place the same afternoon.

The Douche as Affecting Blood Pressure.—Dr. Sergius Vishegorodski, a Russian regimental surgeon, publishes as a graduation thesis some researches on the effects of the general douche at different temperatures on the blood pressure, pulse, respiration, and temperature. The experiments were conducted in the Krasnoselski military hospital, the eleven subjects being feldsher students (hospital orderlies). The reservoir from which the water for the douches was supplied was about fifteen feet above the floor of the bath-room. From the reservoir two tubes, each about three-quarters of an inch in diameter, conveyed the water to the vicinity of the subject; one of these delivered the water in the form of rain; the other delivered three jets directed to the liver, the spleen, and the back. The duration of the douche was two minutes. The blood-pressure was estimated by means of Basch's sphygmomanometer, an instrument which consists of an elastic pad filled with liquid placed over the radial artery, and communicating with a mercurial or aneroid manometer. Dr. Vishegorodski found that with douches of from 63° to 90° F. the blood-pressure was considerably increased, but that douches of from 100° to 114° F. diminished it. The increase of pressure in the former case was found to persist for some time, not returning to its normal amount for more than an hour after the douche. The variations in the blood-pressure occurred simultaneously with corresponding variations in the cardiac beats, the latter becoming slower as the blood-pressure increased and more rapid as it diminished. This appears to be contrary to the results obtained by Delmas, who, however, judged of the pressure merely by sphygmographic observations. Douches of a little over 90° F. produced scarcely any effect on the blood-pressure, the pulse, or the respiration. It is interesting to observe that, in discussing physiological questions, Dr. Vishegorodski—like, indeed, many other Russian writers—quotes as his authority Foster's well-known text-book (Russian translation).—*Lancet*, February 25, 1888.

A Successful Closet.—Architect Stine describes, in the *Sanitary News* of February 25, 1888, a successful closet as follows:

A successful closet must be nearly automatic in its action; it should have no hidden chambers in direct connection with the bowl, that are liable to collect particles of filth which may in time generate foul and dangerous gases to be thrown off into the room. It should be so constructed that no possible back pressure can be exerted from the sewer that would be likely to deprive the traps of their water seal. In other words the soil-pipe should be open to the outer air at both ends. A constant circulation of out-door air can thus be maintained at all times. This method of connections should apply to every fixture in the house. The present custom of boldly exposing every pipe, trap, and bowl to full

view, is one step far in advance of the old method of closing everything in the neatest of woodwork so that none of the piping was visible, and after the work was finished no one knew what was behind it. It was at once a receptacle for dirt, and often the dried results of an overflow of filthy water, and a general cloak for carelessness and neglect, and in time became a veritable pest spot, and disease followed. The physician points to the plumber. An expert is called in, an investigation takes place, and a woful state of things discovered. Possibly no traps under any of the fixtures, and if they are there, they are so connected as to be deprived of their water-seal through siphonage, three-fourths of the time, or so bunglingly put in as to provide an avenue rather than a preventive.

Nervous Shock Produced by Earthquakes.—Many persons who experienced the earthquake in the Riviera have since suffered seriously from nervous shock, although they did not at the time appear to be greatly disturbed. This indicates that more injury may be done to the nerves by an undue excitement than is perceived at the time. The nerve-centres may, as an English medical journal suggests, be likened to batteries, and regarded as apt to be discharged suddenly and sometimes unconsciously; and when once their residual stock of energy is consumed, it can be restored only after a long time and by the exercise of extreme care. It is practically observable that when nutrition is impaired in a nerve-centre or branch, extreme difficulty is met in restoring the integrity of the nervous function, and even the wear and tear of ordinary life seems to increase the exhaustion instead of reducing it by stimulation of the recuperative faculty.—*Popular Science Monthly*, March, 1888.

The Ascaris Lumbricoides in Hens.—ASHMUN writes to *Science* of February 24, 1888, from Cleveland, Ohio, relating the following suggestive incident:

On February 12, 1888, a lady in this city, on opening the egg of an ordinary hen, observed a worm lying coiled in the albumen or "white" of the egg, near the lesser or pointed end. She placed the egg in a saucer, and the albumen flowed out through the opening in the shell, carrying the worm with it. After exhibiting to friends during the day, it was brought to me, February 12th. Upon examination I find it to be an *Ascaris lumbricoides* about four inches in length; and, with the statement verified, the phenomenon becomes interesting in many ways.

An explanation of this occurrence is made as follows by WRIGHT in the same journal of March 2, 1888:

The nematoid worm sometimes found in the white of the hen's egg is not *Ascaris lumbricoides*, as your correspondent of last week supposes, but a *Heterakis*, generally *H. inflexa*, the normal habitat of which is the fowl's intestine, but which occasionally wanders into the oviduct.

Human Electricity.—A hemianæsthetic hysterical female was shown at a recent meeting of the Société de Biologie, from whom M. Féré could under certain circumstances disengage at the surface of the body luminous tufts, one third of an inch long. The son of this woman, likewise hysterical, presented the same peculiarity. In both the skin was remarkably dry. These phenomena could be easily augmented by provoking sensorial excitations. Such phenomena are known more commonly in certain hot and dry tropical climates.—*Lancet*, Feb. 11, 1888.

In Memory of Milton B. Musser, M.D.—The death of Dr. M. B. Musser having been announced at a recent meeting of the Medical Board of the Philadelphia Hospital, the following minute was adopted:

The Medical Staff of the Philadelphia Hospital have heard with sincere regret of the death of their late colleague, Dr. Milton B. Musser, one of the senior members of the Obstetrical Staff.

Coming from a family of physicians, equipped with a complete medical education, and an early training as a hospital resident, with attractive manners, a pleasing address, he was thoroughly prepared, and peculiarly fitted to undertake the duties of his profession.

With large experience and ripe judgment, enthusiastic in his work, honest in all his professional relations, sympathetic, kind, and gentle, he was a model physician, and this institution, that he has so faithfully served, and the staff of which he was so earnest and trusted a member, have lost an honored, tried, and conscientious officer.

The staff desire hereby to place on record their high appreciation of Dr. Musser's many excellent qualities, and the deep sense of loss which they, in common with the community in which he lived, have sustained by his death.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING MARCH 10, 1888.

STONE, E. P., *Assistant Surgeon.*—Detached from the Coast Survey Steamer "Bache," and ordered to Hospital New York for treatment.

KEENEY, JAMES F., *Assistant Surgeon.*—Commissioned 1st of March, 1888.

BRUSH, GEORGE R., *Surgeon.*—Ordered to the "Omaha" when the "Pensacola" arrives at Aspinwall.

MEANS, VICTOR C. B., *Passed Assistant Surgeon.*—Ordered to the "Omaha" when the "Pensacola" arrives at Aspinwall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING MARCH 10, 1888.

HUTTON, W. H. H., *Surgeon.*—To proceed to Brunswick, Georgia, on special duty, March 5, 1888. Detailed as President of the Board to select a site for the Gulf Quarantine Station, March 10, 1888.

CARTER, H. R., *Passed Assistant Surgeon.*—Detailed as recorder of the Board to select a site for the Gulf Quarantine Station, March 10, 1888.

WASDIN, EUGENE, *Passed Assistant Surgeon.*—Granted leave of absence for thirty days, March 8, 1888.

BRATTON, W. D., *Assistant Surgeon.*—Ordered to examination for promotion, March 7, 1888.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

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